JULY, 1875.

THE
AMERICAN
FARMER
ESTABLISHED
1819
PUBLISHED
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SAM'L SANDS & SON
BALTIMORE MD

TO FARMERS AND GARDENERS.

$1,000 REWARD TO ANY ONE that can find by analysis or otherwise any adulteration whatever in our manufacture of Bone.

No heavy Bones taken out for Bone Black, or other purposes.

The First Manufacturer in America that sold GROUND BONES by WEIGHT.

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Organic Matter	40.12 per cent.
Containing—Nitrogen, 4.08; Ammonia 4.95.	
Inorganic Matter	56.14 per cent.
Containing Phosphoric Acid	24.52 per cent.
Containing Bone Phosphate of Lime	53.52 per cent.
Insoluble Matter	2 51 per cent.

This is the BEST SAMPLE OF BONE DUST I CAN FIND IN THE MARKET, and call your especial attention to the LARGE PERCENTAGES OF VALUABLE MATERIAL for the improvement of the soil, and to the SMALL PERCENTAGES of moisture and insoluble matter

Respectfully, etc., P. B. WILSON, *Analytical and Consulting Chemist.*

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All Kinds of Fertilizers, &c.

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Agricultural Implements and Machinery,
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FRUIT AND ORNAMENTAL TREES, SHRUBS AND PLANTS; FIELD, GARDEN AND FLOWER SEEDS.

ALL KINDS OF FARM SUPPLIES.

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IMPROVED LIVE STOCK,

CATTLE, HORSES, SHEEP, SWINE and POULTRY. In this Department we buy only from breeders of established reputation of the several kinds, and cannot undertake to procure ordinary farm stock, such as draft horses, milch cows, &c. In this vicinity great attention is paid to some particular breeds of stock, and specimens can be had here which are nowhere to be surpassed.

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Sam'l Sands & Son,

EDITORS AND PUBLISHERS AMERICAN FARMER,

No. 9 North St., Baltimore, Md.

THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

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Correspondence.

"Economy."

"He said unto his disciples, gather up the fragments that remain, that nothing be lost."—*John, 6th Ch., 12th v.*

To the Editors American Farmer:

In the application of the term economy, I wish not to be understood as meaning that contracted and parsimonious principle usually called stinginess, that closes up the heart and stifles every generous and noble impulse, but that more enlarged and comprehensive principle that prompts the farmer to husband all the resources of the farm and apply them to the best advantage.

Whatever may be said about the conservative influences exerted upon the personal character of the whites by the institution of slavery, and that it did have that effect I freely admit, yet it cannot be denied that it did, at the same time, have the farther effect of engendering habits of indolence and extravagance. This fact is abundantly proven by the sad condition in which almost every portion of the South was found at the close of the late civil war. The Southern people, always moderate and conservative and distrustful of innovations of every kind, have been slow to adopt those changes of habits which their altered circumstances have made indispensable. Many of them are still running in the same old ruts, and it is the most difficult thing in the world to get them out of them.

The cardinal virtue of economy is one of universal application, and capable of great expansion. There is scarcely an operation on the farm, or an item of domestic or household management, in which it cannot be applied, and the diligent, practical farmer will find occasion every day for its profitable exercise. Our Saviour, when on earth, took occasion to set us a notable example in the application of this great principle, when "he commanded his disciples to gather up the fragments that remain, that nothing be lost."

Many of our farmers have energy, and work hard, and make good crops too; but at the close of the year's operations fail to realize any profit, because they neglect "to gather up the fragments that remain;" for it is in the fragments mostly that the profit is to be found.

There are so many ways and occasions for the profitable exercise of this important virtue that it is impossible to enumerate them all. I only propose to mention a few of the most important, and the first is that of labor.

Here in the South, there is more money lost in the improper application of labor than in any other way whatever, and the present stinted condition of our people is due, in a great measure, to this cause. Much of the land cultivated here does not pay one-half the cost of its cultivation. It is strange, indeed, that they should persist in a habit that is so obviously unwise and ruinous. This habit was acquired when labor was abundant and cheap, and our people are so much wedded to their old habits that they have not yet realized the necessity of an entire change of these habits, or rather they have not wrought themselves up to the point of *making* the change. Talk to them about these things, and they will acknowledge the truth of everything said, but will still pursue the old beaten track. They say that their land is all poor, and what else can they do. The answer to this excuse is,—you must either confine your cultivation to such land as will pay, or you must use the fertilizers on the poor land, so as to make a paying crop, and go on and adopt a good system of improvement and permanently improve the poor land; and this can be done mainly by clovering, and by saving and applying everything on the farm that can be converted into manure.

Labor is money, or the equivalent of money, and we should exercise as much economy in its expenditure as in the expenditure of our dollars and cents. Our laborers should receive our constant attention, and be made to discharge their duties faithfully. The duty and interest of the master does not lie so much in laboring with his own hands as in controlling and directing the labor which he employs; though it would not be amiss to lend a helping hand occasionally, just to let the hands know that he is not above doing it. There is necessary, on every farm, a directing, controlling and superintending power, without which business will not progress satisfactorily. An intelligent, practical business man

can accomplish a good deal more in this way than by working constantly himself.

Time is the next item in the account of economy which I propose to notice. Time is also money, or the equivalent of money. Ah! it is very often a vast deal more valuable and important. It is so precious, indeed, that our beneficent Creator has given us but one moment at a time. How important then to "husband the time," and "count the moments as they fly," and how criminal to waste or kill time.

In order to a proper economy of time and labor, the practical farmer should maintain order, system and discipline on the farm. He should exercise forethought, and his plans should be well digested and matured in advance. Generally there are special seasons, opportune moments for each separate work on the farm, and when each is done at its own appointed time, everything goes on harmoniously. On the other hand, when the farmer gets behind-hand with his work, and one operation begins to crowd upon another, confusion and embarrassment ensue, sometimes involving the loss of much time and labor.

Early rising is another requisite for the proper economy of time, and the master himself should generally be the first to rise. It is all a delusion for him to think that the laborers are going to rise up early whilst he remains in bed; and it is equally delusive to suppose that he can jump up and blow a horn, as a signal, and then return to bed and expect his hands to get up and go directly to their work as if he were present. "He arose up early in the morning" is an expression that occurs very often in the Bible, and whenever the old patriarchs had any important work to do, they always got about it early in the morning. Early rising is indispensable to successful farming.

Much time and labor may be saved by the proper location of the buildings, farm-pens and roads of the farm. When the buildings happen to be located at one end of the farm, a great deal of time must necessarily be lost in hauling and passing to and from the daily work. These buildings, if practicable, should always be located in the centre of the farm, and as convenient as possible to wood and water. On many farms a great deal of time is lost in hunting up tools that have been misplaced. No suitable place is provided for them, and when the laborers happen to stop using them, they are carelessly thrown aside, and when they are again needed, very often a day is consumed in hunting them up.

On every farm there should be provided a safe and suitable place for storing away the agricultural implements and tools of every kind, and the master should see to it that the laborers lodge them there whenever they stop using them.

There are many other items to be brought into the account of economy. There is the saving of everything that can be converted into manure,—such as ashes, bones, dead animals, the droppings of cattle, &c. Dead animals should always be put into the compost heap. A dead horse will make some 8 or 10 loads of excellent manure, if composted with stable manure, woods mould, muck, &c. Every bone should be saved for a similar purpose,—for bones, when composted with strong stable manure and allowed to remain in bulk two or three months, may be as effectually decomposed as if subjected to the action of sulphuric acid.

In conclusion, allow me to admonish our people to heed and treasure up the beautiful text at the head of this article,—"Gather up the fragments that remain, that nothing be lost."

Cumberland Co., Va. W. HOLMAN.

The Future Greatness of the South—Two Essentials to it.

Messrs. Editors American Farmer:

The southern section of this Union will never become a prosperous country until she becomes more self-reliant and self-protective. She may recover, and now rapidly is recovering, from the political vassalage of the past decade; but, however freed from outside circumstances, she must look to her own financial prosperity by *raising* her *own manures*, her *own supplies*, and manufacture her *own raw material*. Look at the cotton factories of the State of Georgia—the Empire State of the South. Where, in any country, can you find such handsome dividends as are paid there? And if it holds good in Georgia, why not in every Southern State; for in nearly every one nature has furnished free and cheap motive power in abundance. We buy everything, from a broom to a sewing machine, and rely upon our great king *cotton* to adjust all our balances. Now how can this be when the fertilizers alone consume the greater part of the proceeds?

Not one farmer in ten raises his own meat, (while this is a great hog country;) the majority buy corn and fodder and hay before the season is out at extravagant prices and heavy freights, and when his cotton is sold feels mortified and surprised that he will hardly have enough left to commence a new year's operations with. And is it not strange that each successive year finds them in the same dilemma?

We should first have more stock—cattle, swine and sheep—at plain prices, and buy the improved and fancy breeds as we become able—(for at present we are an impoverished people)—have movable fences—raise more of that most valuable of all manures, (horse-stable manure)—use our manures more freely in the fall and winter months, when there is less volatile escapement and less heating and irritating properties of the manure—depend heavily on peas and clover, especially the former (in connection with plaster.) It has largely the advantage of clover in its quick growth, the facility in plowing in, and the frequency of seeding. With peas and stable manure, and having movable fences to pen your cattle, (thereby saving all the liquid manure,) any farm in our genial latitude, no matter how poor, can soon be brought up to an astonishing fertility. Save your fowl and hog manures, feed your pigs from your dairies, and soon your down-trodden and despised section will rank second to none other on the globe.

Halifax Co., N. C. JNO. D. THORNE.

The True Theory of Farming.—No. 8.

Editors of the American Farmer:

In the *practice* of agriculture, which will now be interwoven with the examination of the theory, there is a diversity between the slavish pursuance of the *course* of nature and the intelligent practice of the art in the light of nature's laws. Agriculture is an art, subordinating the forces of nature in the abnormal development of certain parts of plants,—as improvement in texture of fibre for raiment, in grains, fruits and meats for food, &c. To follow nature's course is, therefore, to abandon the art and the science of agriculture.

To learn the *laws* of nature, and to practice farming in the universal light of this learning, is the highest conception of this great subject.

When the writer resolved to be a farmer, a practical English farmer and gardener was employed. Among other orchards, one of dwarf pears was planted. The trees were purchased through a very intelligent agent of a Syracuse nursery. He was consulted as to pruning and planting. A dispute arose between the American pomologist and the English gardener as to pruning the roots. The gardener had cut a number severely, tops and roots, cutting out the leading central shoot and the central "tap" root. The pomologist objected to cutting the central shoot so low and to removing the central root, assigning plausible reasons against both, which were answered only by excited asseverations as to the practice in the old country, accompanied with plain indications that but one "boss" would be tolerated, resulting in the abortive selection of myself, who knew nothing about it, as umpire. Finding decision the necessity of the hour, I resolved to pursue what was vociferously claimed as practice and experience, without reason rendered, against theory urged with plausibility and force.

Among other things, it was contended by the American agent, who was a friend and admitted he had not observed the practice, that nature did not furnish the tap root without purpose, or for a bad purpose. That those varieties of trees furnished by nature with these straight tap roots required them as they require a stem above ground, to grow in health and vigor; and that other varieties not supplied with them by nature were furnished with such as dispensed with their necessity; to remove them was *against nature*, and, of course, ruinous. And moreover, that many of the lateral roots were mutilated and torn off in taking up from the nursery, and must be further shortened to smooth the ends, which, with the removal of the tap root, would amount to wholesale slaughter.

Still, having employed a man to plant my orchards, in ignorance of the subject myself, I decided to let him have his way, and tops and tails were cut off. Time, the "great pacificator," has settled that the plan without a reason *rendered* was right. In various parts of the world the tap root is removed in practice, and the trees are set on flag stones in the ground, and experience has proven it a good way to *get fruit* from a pear tree growing on quince roots.

It is a violation of the *course* of nature, and so is the grafting of the pear on the quince stock; but neither contravenes any *law* of nature. They only prove that each of these departures from nature's course is in strict obedience to the laws of nature, in the production of the finest fruit in the world, *on quince roots.*

But the cutting back of the central shoot for two years so dwarfed it that it fruited heavily, and turned stubby and died out. This destroyed the leader and pyramidal shape, so necessary for the beauty and strength of the tree and perfection of the fruit. For some years I have been pruning them myself with the special aim to undo the great injury of the first two years' cutting.

A branch on a fruit tree continually cut back more than the others, dwarfs, fruits, becomes rough and mossy and finally fails to send up annual shoots and dies. The vigor of other parts of the tree is no remedy against the barbarous treatment of that branch.

Much was said at the time of planting, about deep setting to insure a growth of pear roots above the junction with the quince stock. They were planted so deeply that after two years my Englishman insisted on taking them all up and resetting. Upon examination of the deepest set trees, I found no roots above the junction, but discovered the quince roots coming up almost perpendicularly until they reached the upper soil, permeated by air and solar heat, diverging hence horizontally in search of food.

Much had been lost in growth by the deep setting, but nature had overcome the difficulty in her own appointed way. In four hundred trees I have not found to this day but two or three roots sent out above the quince stock, and but one on any one tree. So all the quince roots labored for two years to get up to their normal position, and not exceeding three got a lease of prolonged life from a single pear root. This scrap of experience is referred to, simply to illustrate general principles, to be examined more in detail hereafter.

We now come to one of the most important special subjects connected with the practice of agriculture; a clear understanding of which is of more practical and theoretical value than any other branch, and is becoming more important as our country is more often visited by droughts.

A soil in a propitious clime may be well supplied with plant food, and, in the absence of other conditions, may be sterile. It must be porous and have a circulation of air and water somewhat analogous to vital circulation, but not through as well-ordered channels. A medium of circulation in the soil is as absolutely necessary for the vigorous growth of plants as that in their own bodies. Of course, as this essay has nothing to do with marine nor "air" plants, agricultural plants only are meant, unless otherwise expressed.

Activity in a soil is produced by innumerable physical and chemical causes, instigated chiefly by water and oxygen combining with certain elements, forming new combinations by the decomposition of others.

During these changes plant food in available form is eliminated and absorbed in combination with water by the feeding roots.

Water, although necessary for these purposes, under unfavorable circumstances will produce

torpidity and consequent barrenness. This happens when the soil is *saturated* and the passage of the water is *arrested* even though the surface be not tangibly covered with the liquid. The pores of the soil are filled, the air excluded, and solidity instead of porosity established.

If the plants could grow without atmospheric influences in the soil, still the water dammed around the roots would become exhausted of the mineral matter with which it was laden in its passage through the atmosphere and soil, and thus the plants would lose ammonia, carbonic acid, lime, &c., with which fresh-coming water is ever laden in its passage through the air and soil. While, on the contrary, the slow passage of water through a *porous* soil nourishes the plants, and leaves it after rainfall in that condition for free ingress of air through the same channel.

In whatever degree of solubility plant food may be *administered* to the soil, it is very soon converted chiefly into a comparatively insoluble state, by combinations with constituents of the soil, which are again broken up by the varying conditions of an active soil, and immediately combined again in other forms of more or less solubility.

Thus by the administration of *soluble* substances a perpetual round of change is inaugurated, which, as hereafter will more fully appear, is the very life of plants.

The great promoter of these changes is

DRAINAGE

Some degree of attention will be necessary to an understanding of this somewhat philosophical subject.

Two leading forces control the motion of water in an open gravelly, or a porous loamy soil:—1. The *attraction of gravitation*, promoting the downward passage of water through open, pebbly soils, called *percolation*. This force is chiefly exerted downward, and soon exhausts the soil of water. 2. *Adhesive attraction*, displayed in the adhesion of rain drops to the tips or under surfaces of leaves and twigs A globule thus suspended, coming in contact with a dry substance will be divided, a portion *adhering* to each body. When this *adhesive* force is exhibited by the contact of liquids with porous bodies, as a sponge or the soil, it is called *capillary attraction*.

It acts only at insensible distances, causing liquids to be absorbed from moist bodies into dryer porous substances, or from one part of the same body into another, until equilibrium of moisture is established.

Under the conditions necessary to its operation it overcomes gravitation, causes liquids to rise or to move in any direction of the walls of the body to which they adhere; as in a sponge, or in a small tube attracting water higher up its walls than in its centre, producing a concave surface on the water.

Its action in a porous soil is strikingly represented by the lamp wick. Place in contact two unlighted wicks of like texture and dimension, one saturated with oil, the other dry; adhesive attraction, promoted by the capillarity or porosity of the wicks, will cause absorption into the latter until an equal quantity appears in each. If sufficient oil be accessible to *fill* all the pores of both wicks, the equilibrium is called *saturation*.

In either case there is no further exertion of this force, unless the wicks or their parts be so situated that one will *evaporate* more than another, in which case the same force displays itself in promoting equilibrium of moisture in all parts. To intensify the motion, light a wick at one end, immersing the other in oil, as in a lamp. The flame converts the oil into *gas*, which being lighter than the atmosphere, passes upward, invisibly mingling with the air, while its place is being filled by oil from beneath,—thus continuing the saturation and prolonging the motion as long as the conditions are present.

Hence may be deduced, in general terms, a law of *equilibrium* or *diffusion* of fluids which overcomes gravitation, and is incomparably superior to all other forces in the immediate administration of food to plants.

During rain-fall the soil becomes saturated at and near the surface. If it be in proper mechanical condition, that is porous, capillary attraction is exerted downwards, the water being absorbed into the dryer earth beneath, aided, in this case, by gravitation.

When the rain ceases to fall, the atmosphere in contact with the surface becomes dryer than the soil, and attracts water from the *surface* of the latter in the form of vapor. This is called *evaporation;* it acts *only on the surface.* As the water is exhaled the surface soil becomes dryer than that beneath, and, in spite of gravitation, draws up water thence, as a sponge, and the under soil absorbs from still farther beneath, and so on down as far as porosity exists, as long as evaporation continues, or the upper soil is dryer than that beneath.

So, in a soil kept by cultivation and drainage in a condition of porosity, there is maintained in all parts a constant passage of water, during rainfall downward, and during evaporation upward, holding plant food dissolved from the atmosphere and the soil, supplying the daily wants of plants.

Thus the soil continues moist from rain to rain, ever affording water to the roots of plants, as the leaves and the surface soil evaporate it.

The condition of thorough drainage, deep preparation and consequent porosity of the soil are heightened in importance in another view of the subject.

Notwithstanding the immense quantity of water held in a porous soil and brought up during sunshine by adhesive attraction or absorption, during protracted droughts the supply from the utmost depth of plow or spade will become so far exhausted as to famish the plants, if dependent alone on rainfall at long intervals.

Hence the author of nature has appointed another mode of supplying water, alike dependent on porosity.

It is, so to speak, a manufacture of water from the vapor of the atmosphere under a blazing sun. In well tilled fields this is ever going on when the sun shines hottest, depositing immense quantities of water in the soil.

The farmer who makes smooth holes in solid earth, no matter how much food is locked in it, and plants seeds therein, waits for the rains to

water the plants; when the rain falls the water runs off, and the plants wither and die.

His neighbor, who merely scratches the surface, for fear of turning up injurious clay and the like, because he does not know how to disintegrate without bringing the subsoil up, only procrastinates the famishment of the plants.

On the contrary, he who knows how to plow and to spade deeply, understanding the object of stirring the soil, waits not for the rain drops, but is ever extracting water from the atmosphere, (as the leaves take carbon,) without cart or bucket, —simply by *stirring the soil as deeply as possible*, without breaking the roots.

The atmosphere contains vapor of water, a portion of which, on contact with colder bodies, by the reduction of its temperature condenses into water. A familiar example of the operation of this beneficent law which brings the dews and the rain drops, is exhibited during warm, dry summer days in the formation of drops of liquid water condensed from the watery vapor of the atmosphere, and held by adhesive attraction on the outer surface of glass vessels containing ice-water. So far from external heat or apparent dryness of the air militating against the process, the greater the difference of temperature between the vessel and the air, the more rapid is the formation—that is, the warmer the air the more readily does the condensation take place.

Now the same process is ever going on in a porous soil when the atmosphere is warmer than the soil, to the full depth of its porosity.

The pores formed in the soil by tillage or by rain, when the water is carried off by drainage, or exhaled, as already explained, are instantly filled with atmospheric air. By contact with the colder walls of the cavities the temperature of the air is lowered, producing condensation, as on the glass vessel.

Instead, however, of standing in visible drops in the soil, it is diffused upward, downward, and in every direction of dryer parts of the soil by absorption.

Diversity of temperature and the consequent partial decomposition of atmosphere, produces motion, by which, as the vapor is condensed, it is replaced from the surrounding atmosphere. Thus the source is inexhaustible, and the supply renewed as long as the conditions exist.

Thus the upper and the so-called subsoil not only in respect of water, but of other food dissolved from the soil, are *assimilated* by the diffusion of water, as unceasing as the circulation in the bodies of plants and animals.

In ignorance of these all-pervading principles, a farmer is afraid to plow the famishing crop during drought, when most needed, until his ignorance and his fears prove his overthrow in the starvation of the plants. FREEDOM.

Our French Letter.

Raising Meat Supplies, &c.

To the Editors of the American Farmer:

France has a good deal of lee-way to make up in the matter of extensive horse-breeding, but in the rearing of cattle she is positively in an advanced position. What has been lost sight of in the case of horses, is remembered, in one respect, in the matter of stock,—suiting it to the locality; thus largely developing two objects, precocity and fattening. M. de Behague is not only a prominent illustration of these rules, but is conspicuous in making known his methods, their cost, and their results. His specialty is the production of lambs for the Paris market, and this he effects by selling the animals at nine months old. He advocates, that the lambs in their early age be liberally fed, so as to increase the power for assimilating food. Animals thus treated in the early weeks of their existence, feed better subsequently and derive more profit from their food. To produce meat cheaply, presupposes great precocity,—an end only to be secured by well-nourishing the mothers pending the milking period, and acting similarly towards the lambs from the day of their separation from the ewes till delivered to the butcher. The animal that consumes the most food in the least time, will be the most profitable for the farmer. M. de Behague made an experiment on 100 lambs, which were born in March, 1874, and sold to the butcher on the 8th and 28th December following. Those lambs fed twenty days longer, sold for fr. 38 per head, being less by fr. 4 than such as were disposed of twenty days earlier, in addition to the cost of twenty days feeding. He attributes the difference to the more or less great aptitude of the animals to profit by their rations, and to the difference in precocity, arising from the milk qualities of the mother. Of course among the 100 lambs selected, the largest and fattest were sold off first. To produce meat at a cheap rate, then, it is essential to select rams whose mothers have been remarked for their milking qualities, and at the same time to choose good milking ewes for breeding with. The 190 animals cost fr. 16 per day for their keep, which comprised maize, rye, and rape cakes, lucern and clover, and the mean selling price was, wool included, fr. 40.

Veal is a commodity very much in request in the Paris markets, and brings a higher price than beef or mutton. But then it must be well fed. The best veal comes from Champagne, and the animals generally represent a live weight of 5 cwts. The veal of Champagne is famed for the perfection of fattening and the whiteness of the flesh; now the soil of that region is poor and chalky. It is an error to believe this whiteness of flesh can be everywhere produced at will, or that feeding the calves exclusively on milk as is practiced in Champagne will secure the same end. The whiteness is attributed to the non-succulent herbage the peculiar soil yields, tending consequently to produce but little blood. In the Causses, the soil is peculiarly favorable to the growth of sanfoin, and what is not a little singular in the character of this forage, it succeeds equally well after a short interval. In the same districts, the cows receive each a name and answer to it at milking hours, four in the morning and three in the afternoon; in repeating the name, the calf, which is kept apart, will also present itself. Both are rewarded with a little salt. The calf with a cord round its neck is allowed to suckle the mother for a few moments; then it is attached short to the left foreleg of the mother, and the milking of the latter is rapidly proceeded with.

An instance of the change that has taken place in farming matters is afforded in the districts around Chateau-Thierry. During the First Empire the primary object was to produce wool, regarding meat as less than a secondary consideration; when the sheep became too old, they were disposed of at a nominal price to farmers in the neighborhood of Paris to be fattened. At present the production of meat ranks now in importance to what wool held under Napoleon I. Further, it pays to import the greater part of the food employed in the fattening of stock; the soil receives so much benefit from the resulting rich manure.

On Raising Horses.

Belgium is as engrossed as France with the question of improving the breed of horses; when it pays to breed and rear horses of a superior character, rather than to import them, the difficulty will be met. Since 1871, there has been a rapid decrease in Belgium in the production of pure blood; only 18 animals were registered that year in the Stud Book, against double the number in previous years. There are not more than 18 breeders of pure blood horses in Belgium at present, and the number of all of the latter is but 115. M. Wahl, in his lately published work on Russia, where he has resided several years, speaks of the Russian horses, those of the Tcherkesses, with enthusiasm. The Russians proscribe winkers as a barbarity. The horses of the Tcherkesses are reared in the middle of the wild steppes, in the midst of nocturnal alarms and dangers, which develop their sagacity in a remarkable manner; the back is large, the breast powerful, the hams extraordinarily full, while the hoof is as hard as iron and as sure as a mule's. The head and neck are light. The animal is chosen from among the best in the troop, and the owner admits it virtually into the family circle, as it assists at meals, often sleeps in the room; the children speak to it, climb up, and play between its legs, or pass the day on its back, so that the animal finishes by acquiring an exceptional intelligence. But no adult is ever permitted to mount till the horse is six years old, the period necessary to impart solidity to the frame. M. Malé draws attention to the advantages of treating horses kindly, and laments the brutality with which they are so often subjected to by reckless or drunken servants. He truly says, all animals maltreated will in the long run become vicious,—hence the difficulties to make them work, to sell well, or to obtain a good price for their progeny; for it is an established fact, that vicious habits are transmittable.

Diseases of Stock.

Solutions of ammonia are commonly administered in France as a remedy against distention among ruminants. The accident is most prevalent during the season of young and succulent forage. The difficulty hitherto has been, to enable the ammonia to reach at once the paunch, and so combining with the carbonic acid gas, the cause of the hoven, reduce the distention. M. Salles has patented a trocar, having at the end an india-rubber ball half filled with the solution and communicating with the trocar by means of a cock; when the trocar is inserted in that part of the animal formed by the thigh and the abdomen, the ball is pressed, the liquid enters the stomach and the inflation at once disappears; the gas can even be let off through the trocar. The animal has only to be kept on a low diet for a few days, till the little wound heals.

Manures best suited for Beets.

M. Meunier has been experimenting on the power of soils to act as filters in retaining their clayey matters from being carried away. The presence of a small quantity of lime or magnesia was ever sufficient to make the most troubled water pass off clear, hence, why the water of field drains is so pure, and why that in the form of rain or water distilled remains muddy, even for a month, till, coming in contact with mineral salts, precipitation is effected. M. Lagrange, the director of an eminent sugar refinery, has for some time been experimenting, practically and chemically, with the various manures most suited for sugar beet; he finds sulphate of ammonia to be the best, and then ammoniacal salts in general; they augment the richness of the sugar, and the pulp contains a higher percentage of nitrogen, an advantage very valuable in feeding stock. The chlorides are most dreaded by the refiner, because they are rapidly absorbed by beet, and exist largely in the juice, where the animal black fails to act on them; they thus prevent the crystilization of the sugar, and favor the production of much molasses.

Exhaustive Report on Preserving Green Maize.

The Central Agricultural Society of France, has, by its practical and scientific commission, made an exhaustive report on the process for conserving green maize for stock feeding, during Winter and Spring, in covered trenches. The farm selected was that of M. Goffort, the agriculturist who has adopted the plan since 1852, and who has also made it first known in France, in 1870. There is nothing positively new in the idea. Since time immemorial, vine leaves have been preserved in a green state, in the district of Lyons, and which has made the reputation of the famous Mt. Dore cheese; in cider-making countries, the apple pulp is similarly conserved; in various parts of Germany, several vegetables are preserved in a green state for fodder, being generally seasoned with a quantity of celery; the same respecting beet pulp. M. Goffort's soil is peculiarly suited for maize; he prefers the South American varieties, the Caragu especially, the stems of which often reach twelve feet in height. The maize is sown after rye, cut green; the latter receiving the manure. He cuts the maize before pitting it, and mixes cut straw and chaff with the mass; this induces regularity in fermentation and best excludes the air. The larger the trench, the better the mass is preserved; those who do not chop the maize sow it thickly, to have fine stems. M. Goffort obtains as high as 65 tons of this green fodder per acre, double what beet would produce; he nourishes 30 cows with the conserve, and they eat it with avidity, despite its alcoholic odor and slightly acid taste; the cows yield from 25 to 30 quarts of milk daily, and their calves had the silkiest of skins, the eyes brilliant; no better test than this to demonstrate the value of food given to the mothers; about 60 lbs. per day per head is the average consumption of the conserved food

The Commission testifies to the results obtained by M. Goffort, valuable in dry climates, but thinks much remains yet to be accomplished as to the best plans for preserving Autumn green forage for Spring feeding.

The Phylloxera.

There has been much erroneous news of late touching an alleged perfect cure for the vine bug disease, the Phylloxera. Unhappily the question is just in the same state as it was in November, when both the vine and its enemy went into Winter quarters. The evidence appears to accumulate in favor of manuring the vines, in order to fortify them against the insects, and the only poison powder to employ is that suggested by the distinguished chemist, Dumas,—sulpho-carbonate of potash or soda, at the rate of 85 lbs. per acre, dissolved in 500 times its weight of water, no small task for a vineyard, and to be applied after the manure—guano is preferred, at the rate of 500 cwt. per acre—has been incorporated with the soil. The salt, as it slowly decomposes, generates sulphuret of carbon and sulphuretted hydrogen, two poisons which kill the Phylloxera; the potash or soda set free nourishes the roots at the same time. The present season will witness these remedies fully tried.

Miscellaneous Items.

Like Belgium, France protests against the authorities arbitrarily planting elm, ash, poplar trees, &c., along the road sides, and demand that fruit trees be employed instead, as is the case in Switzerland and Germany, and whose roots would be less objectionable.

Italy is actively improving her agriculture, by the foundation of special schools; she has now established some for the cultivation of apples, a product of great importance. The government has opened several depots for agricultural machinery, and has instituted lectures on mechanics. The soldiers have to attend the courses of agricultural lectures, two years preceding their discharge. F. C.

Paris, May 15th, 1875.

A Manufacturer on Artificial and Stable Manures.

Messrs. Editors American Farmer:

In the discussion before the Maryland Agricultural Society last month we note the remarks of Mr. Ezra Whitman, a manufacturer of fertilizers, and as we find his remarks have been not only published in your valuble medium, but extensively copied, thereby doing great injustice to concentrated fertilizers, we beg room to say, that had Mr. W. stated the facts in full there would have been no cause to complain of his statements, but they would have been endorsed by all honest dealers in fertilizers and commended by good farmers. Now for the facts:

The writer has had considerable experience in the manufacture and sale of manures, as also in their application upon his own farms, and finds them the cheapest source of ammonia, potash and phosphoric acid that he can obtain; he being able to manure an acre of ground with them for five dollars, whilst Mr. W. cannot haul the stable manure under $10, to say nothing of the $20 paid for it.

Now I do not deny, situated as Mr. W. is, divided from the city by only the width of a street and having only pleasure grounds and garden, that he should find barn-yard or stable manure the *best* of fertilizers for his purposes; and I am only surprised that he should not be able to procure a sufficient quantity.

I should think he would find no difficulty in covering his farms a foot deep with stable manure from the city passenger car stables just across the street. However, we suppose in this, as in a great many other matters, it depends upon the enterprise of the purchaser, and as I cannot afford to purchase and haul this fertilizer 6 miles, I may not be posted as to the possibility of procuring it in the little town of Baltimore.

I agree with Mr. W. that for garden vegetables, where the ground is cultivated year after year, and often several times a year, and kept clear of grass, that unless the vegetable matter is returned in some form the garden must become deficient in humus, and as a consequence will not produce the required results, and that this can be done with stable manure—situated as he is—better than in any other form. But whilst this will apply to his garden it does not apply to the farms of the intelligent agriculturist of the present age, who whilst raising the grass necessary for his Winter provender leaves sufficient grass upon the soil to supply its want of vegetable matter, and furnishing the ammonia, bone phosphate and potash from a concentrated fertilizer, made by a doctor who is not afraid to prescribe and take his own medicine. OLD FIELD POINT.

The Agricultural College.

One of the best farmers in the Western portion of Maryland, whose name we omit, as we are not sure that his letter was intended for the press, gives the following timely and practical suggestions as to the mode of conducting successfully an institution for educating boys who are expected to become farmers:

I was notified that I was appointed a "visitor" of the agricultural college, and because I had sons whom I wanted to send to college, and therefore had a personal interest in the matter, and because I felt anxious that the large congressional appropriation to our State should be used to develop the vast resources of our soil, by infusing a love for agricultural pursuits and the best mode of improving our soil, I attended a meeting in Baltimore of the trustees, met Mr. Minor, the then president, Mr. Earle, Mr. Davis and others. Subsequently I made a visit to the college, while Commodore Buchanan was president, for the purpose of ascertaining whether, in my judgment, I should send my son there.

I took no part in advising the trustees as to the management of the college, nor do I remember to have been asked for any suggestions.

I saw at the college no fields of wheat, no clover, no timothy, no barn, no stock, no orchard. It seemed to me to be rather a burlesque—a piece of irony—to call such an establishment an "Agricultural College."

If a boy is taught enough chemistry to estimate soils—to "know something of soils and manures"—enough mathematics to keep his accounts, survey his fields, level his ditches, measure his timber—enough entomology to know his friends—something of veterinary surgery—something of the garden and orchard—and something about the care and management of stock—he would have quite a course and would have received a thorough drill.

If boys could have a good general education, which would in after-life enable them to pursue with energy that course which they might choose from choice or necessity—and if, in addition to such instruction, they could be associated with a model farm, where they could inspect a nice orchard, examine a well-managed garden, and see fine specimens of the smaller fruits—if they could see verdant meadows—heavy crops of corn and fine fields of wheat—then the pursuit of agriculture would be invested with beauty,—a charm and a freshness which would enlist the sympathy and the interest of young men of ability. We might then hope to see in the near future, practical, sensible, energetic, systematic farmers.

We cannot look down the vista of futurity and see what our boys are to be. We may think they will adopt this pursuit or the other; they may prefer something altogether different. Moses thought he was "not gifted in speech," and therefore not the person to take messages to Pharoah.

If we give our sons a good, substantial, practical education, and exhibit to them a model farm—a well-ordered garden—a well-managed orchard; then if they become farmers we may hope that they will be "not slothful in business," but that they will aid in developing the best resources of our State, and placing it among the first in agricultural beauty and productiveness.

Our State very much needs good farmers. Our people do not know how to make, nor how to use good manure. Many people think farming very laborious,—very unprofitable. We are much in need of correct ideas on agriculture.

The Agricultural College has a beautiful farm, which might be made attractive, beautiful, instructive. How would it be to divide it into different lots, and have it farmed by practical men? One might make corn, wheat, hay, tobacco, oats, barley, &c. Another raspberries, strawberries, and other minor fruits. Another peaches, apples, pears, &c., and the like, or combine as many of the crops as might be profitable, according to circumstances. In this way the capacity of the soil might be tested and the grounds would present an attraction for the young men, which would exert a lasting influence.

Between Baltimore and Washington, all the products of the farm would be of ready sale at compensating prices. A good practical farmer then, or more than one, might add to the interest of the college, and pay well for the labor. But how far such a scheme is practicable, whether the proper men could be procured as farmers, and how far the literary course could be united with the practical, are matters of which I have no well-defined opinion. I have never seen a well-regulated Agricultural College.

Strawberries—Orchard Grass—A Good Fertilizer.

A correspondent in Anne Arundel Co., Md., writes:

This is my first experience with strawberries as a crop for market, and the result so far is not satisfactory. The profits are so uncertain that I shall not be tempted to enlarge the area in cultivation. Indeed, it is difficult to decide just now what agricultural products will pay; and the question of what we shall do has become more important than ever. I sometimes think that those who do *nothing* will do *best*. So unreliable are the profits of most cultivated crops, especially of those requiring large preparatory outlays for fertilizers and labor, that I am not surprised at the great interest now felt in *pastures*, *herds* and *flocks*. I have never before known so much to be written and published about grass, stock-raising and dairy farming. Some of the agricultural journals have been discussing orchard grass as though it was something new, and their columns overflow with inquiries concerning it. For our light soils it is invaluable, and resists a drought better than any other grass. From the window of the room in which I now write, I can look out upon a field of orchard grass the sod on which is fifteen years old. It is always green, and at all seasons, save when covered with snow, affords good pasturage. Though the seed of the grass is expensive, true economy requires that it should be sown with a more liberal hand than is generally displayed.

Some months ago I noticed a formula for a cheap fertilizer in the *American Farmer*, viz: one part bone dust, one of salt, and two of plaster. I have used it this Spring on my oats and potatoes with excellent effect. Both of the crops have continued green and thrifty all through the drought of the last two months. There is a good stand of orchard grass and clover with the oats, and I am inclined to think that the salt has been the means of saving this young grass. I have some of this cheap fertilizer left and shall apply it as a top-dressing to a field of orchard grass which was cut last week, and expect it to tell greatly on the after-math.

Old vs. New Style Farming.

A very intelligent farmer of Virginia, who practices what he preaches, writes us:

Old style farming in our State might give place to what Major Ragland, of Halifax, calls *advanced* ideas. I don't want or intend to have an acre of fenced arable land yielding a crop of weeds. There is no doubt in my mind that your State, as well as mine, must rapidly abandon the old methods of bygone years, (especially where the labor of slaves was employed) as regards the rotation of crops. Garden farming, with the best cultivation, must be applied to staple crops to yield any profit on labor; and all enclosed lands, if at rest, should yield some returns in grass or grazing, or something more available than wild growths requiring a useless expenditure of labor for crops in their turn.

Sowing Grass and Clover Seeds.

Mr. Geo. C. Gilmer, of Albemarle, Va., in a letter which we cannot give entire, says:

Many of our failures in getting a good stand of grass are owing to the careless manner in which it is done, and quite too often I fear, the seed is not sown but sold. In examining this Spring, during a visit to the country, to see how the clover and grasses had come up and stood the cold, I was surprised to find the land sowed by each seedsman was even then marked by his footprints full half-shoe deep, showing the land must have been very wet and entirely out of proper condition. Some of the grasses had been seeded at the rate of two bushels per acre, when a peck and a half of that kind is as much as I ever sow.

I prefer to sow when the ground is dry, and, if possible, just before a rain, and I think the harrow and roller well applied always pay well on the wheat and the grasses.

I found in one instance where the clover pug and the chaff of orchard grass and Randall grass had been mixed with oat chaff, and orders had been given to sow it over about 70 acres, that it was carried out in the four-horse wagon and the men took it up in their hands and arms and threw it out, as the wagon advanced, upon about *three* acres, whereby it will be a total loss. So much for the whites being away and trusting to the colored folks, who ought not to be trusted alone with these costly jobs.

Do you or any of the readers of your valuable *American Farmer* know anything of the "wire grass?" There are spots of it about this place said to have been brought here by Professor Emmit. It has powerful roots and puts up from every joint; say an inch apart makes a thick sod of short grass which seems to me might do for sheep pastures on lands too thin for cultivation. I think it would be quite a job to get rid of it.

We are having fine rains and tobacco-planting seasons. Now is the time to pull up all the wild onion, as now it will come up with every seed attached, and it pulls up quite easy where the ground is wet, and it seems to me every one should certainly pull up enough to secure good milk and butter to his family. I heard to-day a gentleman speaking of Mr. Brennan's large crop of wheat as being the very best he had ever seen, and whilst there was once a great deal of onion in that field he could not find a head of it. If he has discovered a way in the reach of all for getting rid of that great pest to our mountain region, it will be a blessing for which he will be thanked. He is farming on the highest scale I have ever seen, but few there are who can do likewise.

Early Potatoes in Tidewater Virginia.

An esteemed correspondent near Suffolk, Va., writes:

The impression is current that in consequence of the lateness of the Spring, the long spell of dry weather at a time when potato plants were forming tubers, the crop in our section will be short. A week since I noticed a patch of mine where 5 bbls. seed were planted showed signs of ripening, getting yellowish green. The potatoes were small, and I feared a failure; but a good rain came, and cloudy days followed by another sprinkle. To-day a re-examination of the tubers and tops shows a rapid improvement, so much so that I feel sure of an *average* crop.

So far the largest and best matured tubers I have seen—as large indeed as the seed planted—are Early Vermont, on rich land, where no guano was used but a compost of muck and hog-pen manure, with a *handful of cotton seed* at the bottom of the hill, the set placed on the seed and a shovelful of compost on the set.

A Notable Maryland Farmer.

At the May meeting of the Maryland State Agricultural Society, (Mr. Popplein having concluded his account of lucerne,) Mr. Asa Stabler, of Montgomery county, inquired if a plowing and a cross plowing after wheat or oats at an interval of five or six weeks, with rolling and harrowing to reduce the land to a good state of cultivation, followed by a dressing of fine well-rotted manure, with from 300 to 500 pounds of dissolved bone would be a sufficient preparation, according to *Mr. Popplein's* experience, for lucerne and hay, received from the latter an affirmative reply. The President, Mr. Davis, asked leave, as Mr. Stabler was a modest man, to give a brief history of Mr. S.'s farm and mode of farming.

Mr. Davis said that the farm—a part of which Mr. Stabler occupied—was purchased about thirty years ago by Mr. CALEB STABLER, father of Mr. S., Jr.,—at $2.05 per acre, or $820 for 400 acres. It was then without house or fencing,—lying out in old fields and covered with sedge, briars and sassafras bushes—apparently as poor and forbidding a prospect as ever farmer was afflicted with. Mr. S. not having a plethoric purse, built a comfortable two story log house, with other necessary outhouses of the same material, and called it Drayton. To Drayton he removed with his family, consisting of a wife, one daughter and four sons. He inclosed a garden and planted a small orchard. His first crop of wheat was five bushels sown, from which he reaped two and a half bushels,—the first reward of his labor. Acting upon the maxim of an old Quaker progenitor—"if thee is kind to the land it never will give thee an ungrateful return,"—he persevered, and did obtain a grateful and bounteous reward. I have not the data to give you, gentlemen of the association, of the successive crops and means of improvement; but accepting a kind invitation to spend a night at Drayton, some years ago, I found the venerable patriarch and his no less venerable wife alone, and by them I was received with all the cordial but unostentatious and simple hospitality which it was possible for a host and hostess to lavish upon the most honored and distinguished guest. I soon learned from them that their daughter was married, and all of the sons grown up and settled out for themselves. After tea a rap at the door announced a visitor, and one by one the four sons and the son-in-law came in to inquire after the health of father and mother, and to pay their respects to their guest. I soon learned that the 400 acres had been divided into six parts and

that each of the sons and son-in-law had built and was settled on his portion—the old folks retaining the homestead—and that each was near enough, after the labor of the day and after tea, to walk over to Drayton, to inquire after the well-being of their parents. I thought I never saw a brighter or happier family, or witnessed a more interesting or so instructive a scene. Within a few days past I have again passed through the same original farm, now cut up and divided, as already stated. The venerable sire and his consort still survive; each of the sons and son-in-law are in genteel and comfortable houses, surrounded with well-kept gardens and orchard, flowers, shrubs and ornamental trees and farm,—as Mr. Stabler can testify—yielding from 26 to 32 bushels of wheat per acre, with corresponding crops of corn, hay and straw, supplemented by all varieties of fruit, from the early strawberry to October peach and hard russet apple.

Is not the example of such a man worthy of imitation, and his name of higher honor than he who wins his fame on the field of carnage and of slaughter? If it be true, as Dean Swift says, that he who makes two blades of grass grow where one grew before, is entitled to more honor than the warrior or the hero, then is Caleb Stabler entitled to all honor for making one thousand blades of grass grow where *none* grew before.

Growing Grass at the South.

We recently gave from the Manual of Mr. Howard, on the grasses for the South, an exhaustive paper on the cultivation of lucerne at the South,—and we now present the views from the same author on the adaptability of the climate and soil of the same section for raising the grasses:

"There are some portions of the South, as is the case in all countries, where the valuable grasses will not grow. These are those portions which have been exhausted by long-continued and exhausting cultivation, which are naturally poor, or which contain an excessive quantity of sand.

If, however, it is meant to inquire whether the climate of the South will prevent the successful growth of valuable grasses, the answer is given unhesitatingly in the negative. Perhaps the only climate which is superior to ours in this particular is that of England and Ireland, and others similarly situated. Theirs is a dripping climate all the year round, and the winters are so mild that the grass is green the whole year, so that in winter and summer the farmer has the advantage of grazing.

But as compared with the Northern States of this country, the climate of the South is certainly better adapted to grass culture, if we take into consideration the whole year. At the North, during the whole winter and late in the spring, the ground is hard frozen or covered with snow. Of course, during that period the grass is useless—and this constitutes a large portion of the year.

The heats and dry weather of the summer are the drawbacks to grass culture at the South. But these affect summer pasture alone. They do not affect the hay crop. This is an important consideration. Clover and the hay grasses are cut before dry weather sets in. The hay crop at the South will not be injured one year in twenty by dry weather in the spring. We do not know a country more favored in this particular. In England, while the grass grows luxuriantly in the spring, it is very uncertain whether there will be enough dry weather at the proper time to save the hay. Hence the preparations for hay harvest in England are made with a degree of care and anxiety to which we are strangers. If the occasional sunshine be not used to the utmost advantage, the crop is lost. We, on the contrary, always have rain enough in the spring to mature the grass, and not enough rain to render the hay harvest at all precarious.

But it may be asked, when the hay is cut, will not the July and August suns afterward kill the grass? There is danger of this result if live stock is turned upon the meadow as soon as the hay is hauled out, and the grass that is left is grazed close to the ground. *A meadow at the South should never be grazed during the summer.* The grass ordinarily springs rapidly after it is cut, and thus covers the ground and protects the roots from the intense heat of the sun. This precaution should never be forgotten by those who hope to raise hay successfully at the South.

But after the fall rains set in and cool weather begins, the meadows may be moderately grazed in dry but never in wet weather. With some grasses this grazing may be continued during all the dry weather of the winter, as they continue green.

This Winter grazing is the great advantage of the South. It more than compensates for the drought and heat of Summer. It saves to a considerable extent the cost of cutting and curing hay, and of the construction of expensive barns. While cattle and sheep at the North are shut up in great stone barns, costing thousands of dollars, for six or eight months of the year, requiring costly feed and attention, the same animals during the same period at the South might, on Winter pastures, be kept in equally good condition without any other expense than their salt and the interest on the land upon which they graze. This is not mere theory. The writer has sold fat Ayrshire cattle, fat enough to have been approved in Scotland, which never had tasted a mouthful of food, Winter or Summer, save that which they gather for themselves. The reasonable conclusion is that the Southern climate, if we consider the whole year, is well adapted to the cultivation of valuable forage plants and grasses.

Now as to soil. Poor land in no country will raise rich grass. But there is a difference, other things being equal, in the natural adaptation of soils to grass. Sandy soils are favorable to it. This want of natural adaptation may, however, be compensated by extra pains in preparation and manuring. Tight clay soils are, at the South, best adapted to grass. Wherever such a soil is either naturally or artificially rich, grass will thrive in it. Some of these soils are unsuited to any other crop from their compactness, unless it be oats. For instance, what are called "pipe-clay lands;" these will bring neither cotton nor corn to advantage, but will produce excel-

lent herdgrass. There are thousands and tens of thousands of acres of this pipe-clay land, now utterly valueless to their owners, which would make fine herdsgrass meadows.

Success in grass culture is simply a question of food for the plant. It must be the food which the plant requires. If a horse has ever so much meat near him and nothing else, he will starve. If a dog has a hay stack within his reach and nothing else, he also will starve. Plants have their likes and dislikes in the way of food as decidedly as animals. Land may bring a bag of cotton to the acre, and yet be poor grass land. On the contrary, land may be well adapted to grass which is unsuited for cotton. Lands in their virgin state, abounding in the salts useful in general agriculture almost to excess, will produce a great variety of crops. From this virgin affluence plants have an opportunity of selecting their appropriate food. But when these salts have been consumed or washed away, when we plant a crop of any kind we must put back the speciality in the way of food which is required by that particular crop. Therefore, if we wish to sow clover on land which has been deprived of phosphate of lime and potash we must replace them. If we wish to sow grass we must replace ammonia and potash. Perhaps the following general rule will prove a useful guide: Any land that will bring good wheat will bring good clover, and any land that will bring good oats will bring good grass.

The writer has seen the various useful forage plants and grasses tried from the mountains to the coast of Georgia. He has been closely observing in regard to this important interest for more than twenty years. As a conclusion of this protracted observation, he does not hesitate to say if ground be made sufficiently rich and as well prepared, that if judgment be exercised in sowing and in adaptation of species to particular locality, and proper subsequent management be observed, that so far as soil and climate be concerned, the South has unusual fitness for successful cultivation of the valuable grasses.

Management of Tobacco.

We give the conclusion of the essay of Mr. Pursley, the former portion of which was given last month:

Harvesting and Curing.—When the tobacco is ripe it has a yellow faded color, and becomes brittle; the surface of the leaf is rough and ridged. By bending the leaf short between the fingers it will break before it will double.

The sticks to hang it on should be in readiness. The best mode of hanging or stringing is with a V-shaped spear, made of iron or steel. The spear has a socket, large, to admit the end of the stick. The sticks should be sharpened at one end to fit the socket; should be four feet six inches in length, two inches wide, and one inch thick. A stick of these dimensions will hold eight plants.

The tobacco should be cut off just below the bottom leaf, then turn the plant upside down and let it remain so till the sun wilts it When it is wilted it can be handled without breaking; then it should be taken up and laid in piles of eight stalks each, placing the buts of the stalks towards the sun to prevent it from sun-burning. When it is sun-burnt it turns black, and it cannot be cured any other color than black, which ruins its sale.

The sticks should be strewed along, one stick to a pile; place the spear on the end of the stick, and set the stick upright; then take up the tobacco. stalk at a time, and thrust it on the stick, letting the spear pass through the stalk, about six inches from the but end; then take the spear off and take up the stick, and shake the tobacco out straight, and set the stick up with the buts toward the sun.

Some tobacco-growers prefer splitting the stalk from the top down to within six inches of the but, then hang it on the sticks. But I cannot agree with them, for it is more difficult to handle, and is apt to slip off of the stick when moving it; besides, the tobacco cured in this manner is not so heavy as if it was speared. It dries out quicker by being split, but the substance evaporates instead of remaining in the leaf. I am not certain that it injures the taste of the tobacco, but I am certain that split tobacco is lighter than that which is speared.

Some prefer hanging the tobacco on scaffolds in the field, until it is ready to be put in the barn and cured by fire. But it is the safest to house it as soon as it is strung on the sticks.

Scaffolding is done by placing poles on forks, about four feet apart, and four or five feet from the ground; then hang the tobacco between the poles, letting the ends of the sticks rest on the poles. This procedure is unsafe, for the rain may come and saturate the tobacco and wash off the gum thus making it light and chaffy.

Tobacco should not be exposed to the weather after it is cut. It should be immediately conveyed to the barn and hung up. As soon as it gets about half yellowed, a slow fire should be started under it; if made too hot at first the tobacco will turn black. About the second day the ends of the leaves will begin to curl up; then the fire should be gradually increased, till it heats the tobacco blood warm; it should be kept up so till the leaf is thoroughly cured.

If this rule be strictly adhered to, the tobacco will be cured bright. The brighter it is cured the better it sells.

Our barns, in this State, are generally built of logs—some have frames. The barn should be made tight up to the tobacco, which should hang about eight feet from the ground; above this leave cracks or air-holes sufficient for free ventilation.

A barn to hold two and a half acres of tobacco, which is as much as one man can attend to, should be twenty-four feet square. It should have five tiers of poles, the lowest about six feet from the ground; these should extend across the barn, and be fastened at each end into the walls. The poles should be four feet apart, and the tiers directly one above another.

The sticks which contain the tobacco should be within eight inches of each other, on all the poles except the bottom ones, which should be left vacant directly over the fire. When tobacco is nearly cured, it very readily catches fire.

If there be a wet spell of weather before the stalks are thoroughly dry, build a fire under the tobacco sufficiently hot to keep it dry. It should not get damp and pliant until the stalks are dry, then it may be allowed to get damp.

Stripping will be the farmer's labor during damp weather, until his tobacco is stripped and ready for market.

The lugs, shipping, and manufacturing, which are worst, medium, and best qualities, should be separated at stripping. The *lugs*, or worst quality, are found at the bottom of the plant; they are chaffy and light leaves, and should be stripped from the stalk and tied in bundles by themselves with all of the ragged, black and injured leaves.

Paris Green for the Potato Beetle.

Prof. Cook, of the Michigan Agricultural College, thus contrasts the advantages of the two modes recommended of applying this substance:

"The two methods which have been tried at the college, with the best success as to economy, are either to mix the green with water, a heaping tablespoonfull to ten quarts of the fluid, and sprinkle on with a common sprinkler or an old broom; or to mix the green with flour in the proportion of one part of green to six of flour, sifted on when there is no dew on the vines, either through a muslin bag suspended to a convenient handle, that it may be carried and shaken over the vines, the person making the application walking upright, or with a pail, the bottom being of fine wire gauze or finely perforated tin. Where these methods are used, the whole expense per acre, for both material and cost of application, will not exceed $5 for the season.

The advantages of the water mixture are ease, safety, even with the careless, and rapidity of application, and that, too, even if the day is windy. Its disadvantages are waste of material, as nearly one-third of the water does not touch the vines, and of course is lost; danger of not stirring the mixture sufficiently often, when the green, being only held in suspension, not dissolved, settles to the bottom, and the preparation becomes too dilute; ease with which the green when thus applied is washed off by heavy rains; and the danger of not applying evenly, as the powder suspended in the water is amassed wherever the drops of water settle.

After careful experimenting, I have found the flour mixture preferable to all other preparations. The flour makes the green adhere to the vines, so that the heaviest rain is powerless to remove it. No second application is needed till enlarged growth of vines demands it. I make the mixture strong—one of powder to six of flour—so that in making the application we need add just enough of the mixture that we may be able to see it on the vines. I have thus been enabled to safely apply this mixture even to our tender melon and cucumber vines. I would not apply it when the dew is on, as the application will be more even if the vines are dry, and, with the strength recommended above, will always prove effectual. I think this is the most economical method yet recommended. By using the flour mixture I have found that two applications are always sufficient for our early varieties, and frequently for latter ones, and three applications are in any case all that are needed, even in seasons of heaviest rains.

Maryland State Agricultural Society.

The monthly meeting was held on the 3d ult. After the usual routine of business, the president announced the names of the committee, appointed in pursuance of a resolution of the last meeting, to solicit contributions to the mechanical department of the next exhibition.

The subject for discussion, the fattening of cattle, was then commenced by R. Harris Archer, Esq., of Harford Co., the substance of whose address will be found on another page. This is a speciality in the farm operations of Mr. Archer, and his remarks were listened to with much interest; and, in the course of that delivery, he was questioned upon several points bearing upon the subject, which he met with promptitude and in a satisfactory manner.

Mr. Hy. Carroll, of My Lady's Manor, who has also been largely interested in the same branch of farming, was called upon for his experience, and in the main confirmed the views of Mr. Archer upon the subject; but in lieu of the refuse hay with which that gentleman fed his cattle, Mr. Carroll always fed his prime timothy.

Mr. Byerly, of Howard Co., who had great experience in the time of the war, in selecting cattle for the army, gave some very instructive remarks upon the time for buying and selling cattle, and showed the great difference it made—that the weight on 117 cattle gained by a little sharp feeding, and watering, 8,200 lbs. en route from Chicago to Baltimore—an item of no inconsiderable amount. He thought that it was a drawback in fattening to permit the cattle in winter to drink from the branch or cold spring.

Mr. Carroll estimated the loss in weight at 43 lbs. during the night, and Mr. Archer said that was about the same calculation he had made.

[The loss or gain on each animal at this rate, if purchased and weighed before feeding or watering in the morning, would thus be found a considerable item]

Mr. Byerly considered this as the most profitable business in which a farmer could engage, but much depended upon the judgment and management of the stock. Mr. B. was decidedly in favor of feeding with clover hay, in fattening, and always fed his cattle once a day upon it, and the only reason he did not feed it oftener was because he didn't have it. He said that Mr. John Bellinger, a well-known cattle dealer of York Co., Pa., always went to the Western Branch of Va. and to Chicago to make his selections, where he could pick out such as are suited to his taste from the thousands always to be met at these points, which he fed and found the best market for in New York.

Mr. Anthony M. Johnson, of Howard Co., differed with Mr. Archer in feeding cob with the corn. His experience was, that it took double the amount of corn with the cob, to giving the pure corn alone. He fed with good hay, and approved of Mr. Archer's views of the importance of selecting good steers to begin on; but as he was handy to the Baltimore market, where

he always had a good market for his hay, he had given up feeding it to fatten cattle as he formerly had done largely.

Mr. Archer said that though there might be but little fattening properties in the cob, yet it was useful in giving bulk in the stomach. He thought that corn on the cob fed in December was better for fattening than even meal; with his inferior hay he also fed fodder with the corn and cob.

Mr. Carroll turns his feeding cattle out but once a week; he has their water given to them in their troughs brought from distant springs in pipes.

Mr. Byarly, in addition to what had been said about selecting cattle in good condition to commence fattening with, had realized $50 on each head which had cost him $80, in 120 days; he fed on corn and a small quantity of oats. He had 14 shoats following the cattle, which were kept in excellent condition, and the manure from the pigs was worth three times the common barn-yard manure.

Mr. Davis said his experience tended in the same direction, as to the disadvantage of selection of poor cattle, as they would not thrive as well as the better conditioned. His attention was directed to this matter many years ago, whilst travelling in Southwestern Virginia, by a cattle raiser, who gave it as the result of his experience that it was scarcely worth while to buy poor cattle for feeding purposes. Mr. D. had found it easier to fatten up to the proper point for the scales in summer.

Mr. Popplein, of Baltimore, was called upon to give his experience in the cultivation of lucerne, which was of a most satisfactory character. [We have of late given so full a description of this plant, its mode of culture, value as food for cattle, &c., that it is not necessary to repeat what was said at the meeting; Mr. Popplein fully corroborated what was said of it in the article from the pen of Mr. Howard, in the May No. of the *American Farmer*.] Mr. P. had sent to Germany for a large quantity of seed, which his correspondent deemed it best not to forward till the fall, when he could send that of this year's growth.

Mr. Davis said he had sown the seed, but it appeared to have failed at first, or been killed out, but on visiting his farm recently he was surprised to find it had grown three feet or more.

Mr. Popplein says the roots go down 5 to 6 feet. He said that the ground must be in excellent order. After it can get a full sway, he is not afraid of the weeds, but until then they will interfere materially with the lucern. Deep and thorough plowing and heavy manuring are necessary, and will tell well, and last for 8 or 10 years.

Col. W. W. W. Bowie remarked that it should be considered a test of good farming to raise lucern; first, because it eradicates the weeds; and secondly, as it will require the making of the land to be rich, it will make rich farming. He alluded to an experiment of Mr. Beltzoover's with this clover, and showed the estimate he had of it.

In reply to a question of Mr. Stabler, of Montgomery, whether after he had plowed his wheat stubble, if he applied 3 to 500 lbs. bone dissolved and sown with rye, it would be a proper preparation for the lucern. Mr. Popplein thought it would be sufficient to secure a good stand.

Mr. Davis made some highly interesting remarks upon Montgomery Co. farming, and showed what had been done by the father of Mr. Stabler. These will be found in another part of this No

On motion, the Society adjourned to the first Thursday in September.

Horticulture.

Maryland Horticultural Society.

The June exhibition was held on 17th ultimo at the Academy of Music. The display of flowers, plants and fruits was fair, but hardly up to the expectations of the officers. The attendance was moderate, the fact of an admission fee being charged somewhat diminishing the number of visitors.

The following persons exhibited: President Whitman had a large collection of fuchsias, coleus, caladiums, handsome cut flowers, &c. Mr. R. W. L. Rasin,—begonias, fuchsias, a beautifully bloomed clereodendron Balfouri, hanging baskets, a table design of three pieces, &c. Mr. W. H. Perot had beautiful and rare ferns and lycopods, begonias and other foliage plants, new lobelias, cut roses, &c., &c. Mr. A. Hoen entered a general collection of cut flowers and cut roses. Mr. Edmund Law Rogers, a large collection of cherries. Mr. John Feast exhibited two tables full of rare and beautiful plants. Mr. Robert J. Halliday had some fine specimens of foliage plants, hanging baskets, lycopods and fuchsias. Mr. Thomas Fairley's display consisted of geraniums of extraordinary size and beauty. Mr. W. D. Brackenridge exhibited a fine collection of cut flowers of all varieties, rare evergreens, &c. Messrs. Cromwell and Congdon had a fine display of cut roses. Mr. John Cook exhibited a choice collection of flowers and eleven varieties of strawberries. One kind, the "Monarch of the West," was thought the largest and finest flavored berries ever exhibited in this city.

The following are the awards:

Professional List.—Best twenty-four cut roses, $5, Cromwell & Congden; best and largest collection of roses, $6, Cromwell & Congdon; best six foliage plants, $4, John Feast; second best foliage plants, $2, R. J. Halliday; best six variegated foliage plants, $4, John Feast; second best, $2, R. J. Halliday; best single specimen of a variegated foliage plant, $3, W. D. Brackenridge; best six lycopods, $2, R. J. Halliday; best six palms, $5, John Feast; best six fuchsias, $3, R. J. Halliday; best pair of hanging baskets, $2, R. J. Halliday; best table design, $3, Mr. Hoffman; best and largest collection of cut flowers, $3, John Cook; second best, $2, W. D. Brackenridge; best and largest collection of strawberries, $5, John Cook; best six varieties of strawberries, $3, John Cook; best quart of strawberries of any new variety, $3, John Cook; best and largest collection of cherries, $4, E. Law Rogers; best quart of cherries, $2, E. Law Rogers.

Amateur List.—Best six rose blooms, $3, W. H. Perot; second best, $2, August Hoen; best collection of foliage plants, $3, Ezra Whitman; second best, $2, W. H. Perot; best six ferns and lycopods, $2, W. H. Perot; second best, $1, R. W. L. Rasin; best four fuchsias, $2, W. H. Perot; second best, $1, Ezra Whitman; best hanging basket, $2, R. W. L. Rasin; best and largest collection of cut flowers, $2, Ezra Whitman; second best, $1, August Hoen; best table design, $3, R. W. L. Rasin, and best quart of strawberries, $1, S. N. Hyde. In addition to the above named gentlemen, the following were specially commended by the Awarding Committee: To W. H. Perot's gardener for well-bloomed lobelias; to R. W. L. Rasin's gardener for handsomely grown clereodendron; to Mr. Brackenridge for rare evergreens and Rocky Mountain aquilegias; to E. Law Rogers for large-leaved magnolias, and to M. Perine & Son, for pottery ware.

At the regular monthly meeting in the evening, no papers were read and but little business transacted.

It was announced by Mr. Rasin, chairman of the committee on a hall, that the armory of the Fifth Maryland Regiment had been secured for the annual exhibition in September.

On motion of Mr. Jno. D. Oakford, a committee of five members was appointed to nominate to the Society, at its annual meeting in September, eleven gentlemen as its Executive Committee. The committee consists of Messrs. Wm. T. Walters, Charles Reese, Wm. B. Sands, Chas. A. Oakford and Jos. A. Bolgiano.

Notes from La Revue Horticole.

(*Translated for The American Farmer.*)

New Employment of the Quince as Stock for the Pear.

"At a meeting in February, M. Revière made the following observations: Another experiment made in Algeria by M. A. Revière, has had for its object to render pears *sur franc* (double worked) more promptly fertile. The stocks on which we commonly graft these trees are the quince and free stock; but the quince likes only good, deep soil, and its duration is not generally very long. On the other hand, pears grafted on their own roots or pear stocks, whilst offering the advantage of growing in all soils, have the inconvenience of being tardy in bearing; besides their first fruits are bad. M A. Revière proposes to unite the qualities of the two natures of the stock. For this purpose he has first budded the quince on the seedling pear stock and subsequently inserted pear buds of the kind desired on the quince. He will in future make known the results of this operation, which does not appear to have ever been practiced."

The editor calls the special attention of all nurserymen and amateurs to the above note, and desires that others should try the process above indicated and make known the results.

Artificial Fertilization of Melons.

From a reply to a note addressed by the editor, M. Carrière, to a melon-grower, M. Roué, who had been very successful in growing melons for market under sash, the following extracts are made. He states that the kind grown, a very early one, "Noir des Cannes," had a *dark green* color, not agreeable to the eye,—but this kind fertilized with the "Gros Prescott," yielded a variety with a clear green skin—of sufficient size and good quality.

"I sow my first melons about the 20th December, in order to gather the first ripe fruit about the 15th April following. Thirty-five days after seeding, the young plants after being well established are placed in position. In giving them a temperature varying from 22° to 28° Centigrade, the lateral branches will have developed four leaves about twenty-eight days after planting. I then prune them above the third leaf. The buds situated in the axillæ of those leaves are not slow to develop, and the first staminate and pistillate flowers appear below the second or third leaf. As it is always necessary to leave one leaf below the fruit in order to favor its growth, it is above the third or fourth leaf that the third pruning ought to be made. As already said, the temperature of the frames should be maintained between 22 and 28 degrees. With this temperature I give to the melons as much air as possible, varying it according to the state of the atmosphere.

If it is cold weather the sash is raised very little, and I protect the opening with coarse litter or straw, in order that the cold air may not penetrate directly. These precautions although very simple are nevertheless of the highest importance in this early culture. Without air, the organs will become atrophied, and one is often astonished to see the first flowers pass away, (*couler*) as we say.

On examining the organization of melon flowers, we find that some of them have only stamens, others only pistils, and others are supplied *with both stamens and pistils.* The more complete organization of the latter flower has led me to believe that it ought to be most apt in reproduction, and hence it is on this class more particularly that I practice artificial fertilization; what appears to justify me in this opinion is that in some instances, while visiting my melons, I have recognized many fertile ovaries produced naturally by hermaphrodite flowers. However it may be, I have to doubt that the results which I obtain are due to the artificial fecundation, which I practice thus:

I take a staminate flower, deprive it of corolla in such a manner that the stamens are well disengaged; then I pass them very lightly over the stigma of the flower I desire to fertilize until I find it lightly covered with pollen. If the operation has succeeded, and the fertilization is complete, the effect is not slow to exhibit itself. The flower *fades*, and the *ovary begins to enlarge.* I add that the pollen ought to be very dry to aid the operation, and the stigmata should be slightly viscid (*visqueux.*)

With some other observations in reference to care exercised in selecting the flowers, watching the effects and repeating the fertilization when necessary, the article concludes thus:

"The effect of the artificial fecundation upon the melons is, whatever may be the season, by taking advantage of the first flowers, to advance often *by fifteen days* (*even more*) the harvest of the first ripe fruits. ROUE."

The editor calls special attention to this interesting article, and refers to the presence of hermaphrodite flowers on the melons, and to the advantage of this artificial impregnation in early spring at a time "when the sun is often quite long without showing itself, a circumstance very unfavorable to the sexual generation."

NANSEMOND.

Potomac Fruit-Growers' Association.

May Meeting. Topic—The Apricot.

Messrs. Editors American Farmer:

Dr. Howland read an interesting paper on the culture of this fruit. The apricot is a distinct variety of fruit, though allied to the plum. It may be propagated by budding on its own stock, or on peach or plum stocks. The best soil for the apricot is clay loam, but it succeeds on any soil that is rich enough to bear a good crop of corn. If the land be too rich, or the trees overmuch stimulated, they will winter-kill.

Budded on the plum or their own stock the trees are long-lived. The trees are not subjected to any disease in this locality, and you may be sure of fruit here only once in three years, on account of the early blossoming of the apricot. In protected situations there are isolated trees that bear annually.

Protection from Frost in the Spring.—The surest way of retarding the too early blossoming is to place, on the first of April, from a half to a ton of ice round each tree, (according to its size) covering the ice with straw and saw-dust, and then with boards. This, in my case, would incur an expense of some $5; but a crop at $10 per bus. would leave a fair margin of profit.

Another way of securing the fruit is to protect each tree with a cloth (cotton) covering, at an expense per tree of about $20. This would cause, for my orchard, an expense of $30,000; [?] but the cloth, properly taken care of, would last 40 years.

A third method would be to kindle fires of brush or any wood, saturated with coal tar, among the trees in the orchard, on nights when frost is anticipated. In a large orchard this would not cost more than $25 per night, but this is only practicable on still nights.

After the danger from frost is over, then begins the *fight with the Curculio*, and the only way to secure a crop is to jar the trees every morning till the fruit is ripe.

I expect that within a few years my apricot orchard, independent of my other fruit, will bring me an annual income of $10,000. The varieties I have planted are the Breda, Early Golden, Moore Park, and the Peach apricots.

This luscious fruit, ripening about the first of July, is always in demand at paying prices, and will amply reward you for all your care and attention; but if you want to plant trees and raise fruit without trouble don't plant the apricot.

After the reading of the paper, the whole subject, as usual, was thrown open for *discussion*. President Gillingham said that the apricot orchard should have a northern exposure. In this way the trees would not receive the direct rays of the sun, but would have the surrounding air warmed before the rays could affect the trees.

Mr. King spoke of an effective way of destroying the Curculio. Place a coop of your chickens under each tree, and they will exterminate the pests. To destroy other depredators, such as wasps, &c., wide-mouth bottles suspended among the branches, partly filled with sweetened water, will attract and drown them.

The professor said if a frost occurs after the trees are in bloom, he has them sprinkled or washed with water, and in this way he can generally save his fruit; but this year, having three hard frosts, his remedy failed.

On the specimen tables of the Association were samples of apples raised near Mt. Vernon, the Pearmain or Spier (of N. J.,) and the Abram. A lady member also exhibited splended specimens of the rose and scarlet geraniums.

Note by the Reporter.—My reports give the important information that the ordinary reader needs. Of course, as they are very brief, I have to condense the work and talk of two to three hours, and leave out much that was said, though I give the gist of the matter. G. F. N.

Washington, D. C., May, 1875.

The Apple-Leaf Cluster Cups.

Messrs. Editors American Farmer:

No writer on pomology, that we recollect, has given this subject the consideration it deserves. The depredations of these minute plants or insects are very injurious to certain varieties of the apple, and more especially of that fine sort, the Prior's Red, to which their attention is more especially directed, and with the most singular effect. We propose giving a description of the infected leaves, with suggestions.

About the first of June, in Virginia, these depredators commence their work, and soon puncture and emboss all the leaves with small protuberances of a cup shape, depriving them of their natural color and the purposes they serve in sustaining the tree. The trees thus infected, during the remainder of the season, by reason of these yellow blotches, put on the appearance of peach trees dying with the yellows, and this appearance is noticeable as far as the orchard can be seen.

In a correspondence with that eminent horticulturist and entomologist, A. S. Fuller, Esq., of New Jersey, on the subject of "Cluster Cups," we were favored with the following: "The apple-leaf cluster cups is a microscopic plant known to science as *Ecidium pyratum*, of *Schneinitz*. The only remedy known is to remove the leaves and burn them, thereby destroying the spores (seeds) which may remain to attack the trees another season. This cluster cups is sometimes so abundant as to destroy the trees. You might try dusting the leaves with lime or flour of sulphur while wet with dew."

We have made no microscopic examination of these plants or insects, nor tried any remedies; but as the Prior apple has declined in many parts of Virginia to a very great extent, we shall, during the present and next season, use all the means in our power that may tend to rescue this first-class apple from this sole cause, as we believe, of its declination. If this disturbance of its growth and vigor cannot be reme-

died, we would suggest its discontinuance as an orchard tree, as other trees in its vicinity are liable to be attacked. (We have seen the foliage of the Baldwin, the most vigorous of apple trees, slightly affected.) We shall follow Mr. Fuller's recommendations, except denuding the trees, which would require too much labor. We shall try syringing with soap-suds, copperas water, tobacco water, &c., and whatever means may be supposed effectual. If *The Farmer*, or any correspondent through the medium of the *Farmer*, can enlighten us on the subject of "Cluster Cups," we shall be obliged; and if anything new or valuable should be elicited, such writer would be entitled to the gratitude of fruit-growers, and of all who like a fine apple—and who does not? J. FITZ.

Keswick Depot, Albemarle Co., Va.

June Show of the Horticultural Society.

Messrs. Editors American Farmer:

Being in your city on the day of your horticultural exhibition, and having a few leisure moments, I dropped in to see what progress horticulture had made since I was a resident of your good city. I was a little disappointed in the number of exhibitors, especially amongst the florists. Messrs. J. Feast, Brackenridge and Halliday, and a few plants from two or three others, comprised the commercial part of the show. It seems to me that the florists cannot see how much their business will be increased if this society should become a confirmed success and a rivalry spring up among the amateurs. The amateur collections were very good, but I also missed some names that I supposed took a lively interest in the society.

I was particularly struck with the clean growth of Mr. Perot's plants. The fine Clereodendrons of Mr. Rasin was the gem of the exhibition, and his Selaginellas were also fine. I noticed in some collections more of a desire to have a great many varieties than excellence of growth, but this is a peculiarity of all beginners. By the way, is it not rather late to call Hoya carnosa a rare plant and difficult to bloom? I know of no plant easier bloomed when it has once got to a good size. I also saw that one of your dailies made a great mistake in describing Echeverias as a species of Cacti.

I think your charge of 25 cents too high. If it had been 10 cents, with a statement that it was to cover expenses of the hall, &c., it would have brought as much money and more visitors. The latter is full as important as the money, and will always bring the latter. You should try and get your small growers to take more interest in the meetings.

With the best wishes for the prosperity of the society, I remain yours truly, M.

Philadelphia, June 20, 1875.

[Our correspondent errs, we believe, if he thinks the professional florists are not fully enlisted in forwarding the success of our Horticultural Society. Incidental causes kept some of them away from the last show, which was also, perhaps, a few days too late in the month for the most effective display.—*Eds. A. F.*]

Floriculture, &c.—July, 1875.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

During the Summer months, almost every individual having a cottage, with only it may be a few yards in extent of land attached, and those denizens of the city inhabiting stately palaces with extended verandas, down to the less opulent one who to suit his means must be content with a single room, having perhaps only one window, evince a taste for Flora's productions. In one it may show itself in the presence on the window-sill of a Geranium, or pot of Crimson Portulacca; otherwise, more ample means and a taste more eager will expend itself in rustic hanging baskets, stands and vases of varied forms; while porches and balustrades are entwined with Climatis, Honeysuckles, and running Roses, where birds may nestle, and where the family may find shade and shelter. And you may see the suburban cottager, and the ladies of the country household, at early morn and towards setting sun, under the protection of a sun bonnet, marching out with trowel and knife, coaxing and stimulating the weaker objects of their fancy, or shortening back into shape the more rampant in growth,—so that the whole parterre may present a pleasing and artistic form. This remarkable advance in taste for floral decorations has a very prevailing influence for good on the morals of the people, and should we think be encouraged by the press at large, and stimulated by those in authority, and we long to see the time when local horticultural societies will be organized in every county town in our State.

In England and Scotland, such societies exist in almost every parish, where the cottager and mechanic contend for the superiority in the raising of fruits, flowers and vegetables. From these societies much good has sprung towards fostering the social and domestic happiness of the people.

Dahlias should have all the lateral branches and suckers cut off to the height of 18 inches. Insert firmly in the ground, close to the leader, a stake proportioned to the height of the kind; to this tie the main stem with some soft material; stir the surface well and mulch with stable manure, over which a good soaking of water should be given once or twice every week. The above is the usual way of growing them, but we find that the finest flowers are produced on plants reclining on the ground like a tomato vine; this affords more shade and retains moisture, both of which in our hot Summer months they stand in need.

So soon as Hyacinth and Tulip leaves become perfectly yellow, it is a sign that the roots are ripe for lifting, after which they should be kept in a cool, dry, shady place. The ground where they grew can be planted with Portulacca or other free-flowering annuals, and the great secret in the growing of all Summer bedding-out plants, is in the first place to have the ground deep and rich, and then to keep the surface open by constant stirring up with the hoe,—thereby keeping weeds in subjection and holding it porous, so that water can penetrate to the roots.

A good way to save labor by getting rid of the weeds on the walks and carriage drive is to kill them by an application of salt, (that which fish have been pickled in is the cheapest,) in a liquid state, through the nose of a water-pot, in hot weather; but care must be taken not to permit the salt to come in contact with the grass, or any desirable vegetable substance.

No lawn should be mown in hot dry weather; it is better to let any "nap" of grass remain until a wet spell sets in, than to have the roots laid bare to the action of the sun. Newly planted trees should, in dry weather, receive one or two good soakings of water, after which apply a good mulching of short grass, or light manure; this will keep them all right until they get fairly established; should any of the deciduous trees look tough and sickly, the best cure in addition to the above is to cut the branches well back to the main stem, and, if the latter is large, shade it on the south side with a board or strip of canvas. We would advise our friends not to subject themselves to the nursing of old trees; it is a very unprofitable speculation to embark in. A young tree costing 50 cents, planted now, in five years from this will be worth double the money, against a large one of the same kind planted at the same time, the removal of which costs ten dollars; large tree planting may be denominated "folly in the extreme."

Next month we intend furnishing our readers with a short article on ornamental hedge plants, both evergreen and deciduous.

Greenhouse.

The few plants remaining under glass will require constant attention in keeping them clean from red spider, and other offensive insects; the application of water by the syringe, either in a temperate state or just so warm that it will kill the vermin, and not affect or any way injure the leaves, is the safest cure we know.

Clerodendron Balfouri, Stephanotus and the various kinds of Bignonias and Allamandas will require constant attention in training them into shape; and a little coaxing, by giving them every now and then a moderate supply of liquid manure, will greatly improve their appearance.

Begonias and Gloxinias all delight in a light rich soil, giving them a partial shade and a warm humid atmosphere.

We have now in cultivation, and they are becoming deservedly popular, a set of plants, denominated "Succulents," which term, when taken in its literal sense, would embrace a vast host of things belonging to the vegeteble kingdom; but what florists now include under this head, are the Cactus family, Echiverias, Aloes, Agaves, Sempervivums, Sedums, Cacalias and a few other Cape of Good Hope genera. As a general thing they are more curious and pretty than ornamental, although some of the Echiverias when used in a neat-kept garden, form admirable facings, or edging for small flower-beds. To grow them well in pots, these should be well drained, as they are extremely sensitive of moisture.

Mr. R. J. Halliday, at the June Horticultural Show, had an effective pan of the Variegated Mesembryanthemum—a new succulent.

Make Home Beautiful for the Sake of Others.

BY JANE BOSWELL MOORE BRISTOR.

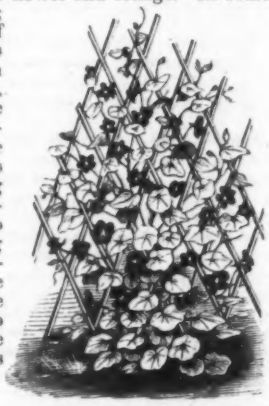
Douglas Jerrold tells a beautiful incident of kindness shown him when a child,—the gift of a brilliant flower, which, though long since withered, after a lapse of many years blooms afresh in memory as he recalls his boyish pleasure. I remember, when a child, on the street I most frequently passed were several brown houses, with large open gardens in front, grassy, and pleasant to the eye wearied of monotonous brick. To this day I never see the delicate airy cypress vine, with its starry white and red blossoms, without recalling the time I was in the habit of pausing before the open iron railing, and looking intently at the winding sprays of scarlet cypress which were trained on fine wire round the piazza of one of these city houses. To me it was poetry itself. I forgot the street as I gazed, and fell to dreaming. I doubt if any of the inmates of the house felt as I did towards the cypress blossoms. Many years afterwards a brown house in which I lived, was, in memory of the old one, completely surrounded by innumerable cypress vines, on invisible strings, and many a little child feasted his eyes and imagination with the sight. Not only does the refinement and beauty of our homes influence ourselves, but others are greatly affected by them.

There is a sunny corner in a friend's home, which, to me, is ever a joy. The house is large, with rooms lofty and cool, the windows wide and high, with broad old-fashioned sills, on which are pots of graceful pendant fuchsias, delicate blue-eyed lobelia, fragrant heliotrope, tea roses and gay calceolaria. There are books and brackets innumerable; statuettes by Rogers; snow scenes of Bonfield; gleaming shells—agate and onyx; Parian vases and figures; choice engravings; and in the recess, cool and overhung with floating Madeira vines and dark-leaved ivy, a photograph of Bachrach's, exquisitely finished, from an old picture—now all that is left of a face that was marvelously attractive. I have spent many an half hour in this favorite spot, looking up at the vines curiously interlaced above, framing in the window, drooping over marble figures, —the darkest, glossiest ivy leaves—forming a framework around this beautiful face, every feature of which is radiant with expression. Those speaking eyes, eloquent mouth, clear, thoughtful brow, and the ivy ever green and fresh, have often spoken to me of immortality.

CHOCOLATE CARAMELS.—Take one pound of sugar, one-fourth pound of chocolate, one tablespoonful of milk, one also of molasses. Grate the chocolate and mix with sugar, etc. Put the mixture in an iron skillet on the back part of the stove, where the heat will slowly melt it. Cook slowly, stirring it well. To ascertain when done, take a little in a spoon and drop it in a cup of water; if done, it ought to sink in a solid mass, and in a few minutes be firm. When you have decided that it is cooked enough, grease a long cheese-cake tin with butter; pour in the mass and spread evenly. Before too cold, cut in small squares.

Tropœolums.

From the *Floral Guide* of Mr. Vick, whose flower cuts are always handsomely executed, we give engravings of this plant. He says Tropœolum majus is a fine climber, growing ten or twelve feet high, comprising several varieties differing in the color of both flower and foliage. In some the leaves are a bright, lively green; in others very dark. The habit of this plant is shown by the trellis engraving on the right. That on the left is a cut of T. peregrinum, the popular Canary flower. The Tropœolums grow freely from cuttings, and are admirable for the house in winter. For large baskets and vases, especially for hanging baskets, they are exceedingly desirable, drooping over the sides to the ground, making a charming and graceful display of foliage.—When the branches have become as long as desired, they should be pinched off; but baskets exposed to the air on every side ought to have plenty of water. The family is worthy a place in every garden.



The American Pomological Society.

This association will hold its biennial session this year at Chicago, on Sept. 8th, 9th and 10th.

A circular which we have received from the President, Hon. M. P. Wilder, and the Secretary, Hon. W. C. Flagg, invites all Horticultural, Pomological, Agricultural and kindred associations to send delegates, and all persons interested in the cultivation of fruits to attend.

It states also that the coming session will be especially interesting, from its location in the centre of the great fruit-growing region of the West, and, it is believed, will be one of the most important and useful that the Society has ever held. On this occasion there will be brought together the best cultivators and fruits of our widely-extended country, when may be examined and compared the fruits not only of the cooler climes of the North, but of the South, the West, and the Pacific Slope. It is therefore very desirable that every State, Territory and Province of North America should be fully and ably represented in this Convention, thereby promoting the advancement of the great resources of our national wealth,—the extension and perpetuation of the amicable and social relations which have heretofore existed among the members of the Society,—and the diffusion throughout the land of our deliberations, for the benefit of our constantly expanding territory.

Arrangements will be made with hotels, and as far as possible with the various railroad lines, terminating in Chicago, for a reduction of fare. Wherever possible, it would be best that such arrangements should be made by the various delegations with roads in their localities, as rates made by Chicago roads will apply only to their lines.

Members, Delegates and Societies are requested to contribute collections of the Fruits of their respective districts, and to communicate in regard to them whatever may aid in promoting the objects of the Society and the science of American Pomology: Each contributor is requested to prepare a complete list of his collection, and to present the same with his fruits, that a report of all the varieties entered may be submitted to the meeting as early as practicable. By vote of the Society no money premiums will be offered, but a limited number of Wilder Medals will be awarded meritorious objects.

At the same time and place with the Pomological Society's Exhibition of Fruits, the Illinois Horticultural Society will hold a Grand Exhibition of Plants, Flowers, and other products of Horticulture, by which an increased interest will be given to the occasion.

Packages of Fruits, with the names of the contributors, may be addressed as follows: "AMERICAN POMOLOGICAL SOCIETY," care of O. B. GALUSHA, Chicago.

Mr. Wm. D. Brackenridge, of Govanstown, the floricultural editor of the *American Farmer*, is the Vice-President of the Society and also the representative from Maryland on its General Fruit Committee.

Fine Cherries.

Visiting, a few days since, our friend Dr. W. S. Thompson, near Warren, Baltimore Co., we were regaled with a real treat in his little cherry orchard. We had frequently heard of the collection of fruits of the Dr., and in our visits to the neighborhood had tasted of some of his pears, cherries and strawberries, which he distributes with a lavish hand to his neighbors, but we were much surprised on our visit to witness what a large display he had on so small a space of ground, and still more to find the superiority

of the production in every branch of pomology. But what struck our fancy most was the beautiful display of cherries which he has raised upon his little farm. The Dr., in setting out his trees, vines, &c., determined in the first place, that none but the choicest varieties of each kind should find a place on his premises; and secondly, as his acres were limited, he determined to have an eye to utility, and whilst planting, to secure with the profitable such as would be ornamental at the same time. In an especial manner with the cherry is this object secured, although he has shown the great skill of the husbandman in all his plantations. He had no less than fourteen different sorts of this fruit, comprising the very best of their kind, and we had a full opportunity to try the virtues of each as we wended our way from tree to tree, and with the cane presented to us by our friend Wilkins, for just such an occasion as this, we had the opportunity of fully comparing the several varieties. They were all *first-rate*, and would probably have commanded the prizes offered at the Horticultural Society's late show if they had been on exhibition. There was one variety, however, which claimed our special attention, as, in our judgment, superior to all others, combining the best qualities of them all, with duration of fruit-bearing and the beauty of the form in the tree. We are not easily provoked to enthusiasm in such matters, but we certainly have not felt so much exhilaration over such an occasion as we did in the partaking of this exceedingly delightful variety,—the "Governor Wood." It was first introduced from Cincinnati, and is now becoming general in collections. We would like to see it in every orchard planted, however small the number of trees.

Health and Strength.—No. 3.

BY JANE BOSWELL MOORE BRISTOR.

As little medicine as possible is a good rule for the teeth, (as well as the general system,) and that little take through a glass tube, whether your physician advises it or not.

Too early removal of the first set of teeth is a cause of future overcrowding in the mouth, the gum or arch of which contracts, and by pushing the teeth too tightly upon one another, causes them to decay. Had my parents allowed my first teeth to remain longer, they would probably have saved me much suffering and some expense. When this overcrowding has been allowed, many experienced and excellent dentists advise the removal of several teeth, or one in both rows, to make room for the others. This should be done early, as the teeth in childhood are not fixed as in after life, and, soon spreading, fill up the space thus made.

It is to the quality of the bread we eat that the teeth owe in great measure their strength and beauty, or weakness and decay. Can anything be more beautiful than a fine mouth? Eminent artists declare it to be the most expressive and characteristic feature of the face, and what is the mouth unless the teeth are sound and white? Most American mothers, even those who have servants, are so much engaged with the multitude of household cares, that few spend as a rule that amount of time which is necessary in acquiring knowledge how to raise healthy, strong, well-trained children. I know some who are conscious of this fact, and are glad and thankful for any hint or word of experience from others. A lady whose children are models of healthy physical development, said "I believe I owe this fact, in great measure, to an article in a monthly magazine, which I read long before I was married." Her children had many disadvantages, all having been brought up from birth on cow's milk, and that sometimes of very poor quality. But she is always on the watch for anything in the experience of others that may help her in her great work.

In her family, good home-made bread is on the table all the year. In Summer a few loaves at a time are easily baked in the tin cooker invented by Mr. Murray. This small light stove can be carried by a child, set out of doors, and quickly heated by a small amount of charcoal, with which bread is baked, meat and potatoes roasted. There is no need for any one to depend on unsubstantial baker's loaves; and as the flour thus used is of the most nutritious kind, ten pounds of it yield nearly double the nourishment found in ten pounds of what is called the best because the finest flour in the market. It gives power to the brain, strength to the bones, beauty and durability to the teeth.

How any child grows uniformly fed on the wretched quality of milk usually carried round in city milk wagons, and the chaffy unsubstantial bread of most bakers, is, to me, ever a mystery; certainly such are not properly prepared for the struggle of life.

The Vegetable Garden in July.

Clean off remains of early crops, and plant succession crops. Burn the weeds and litter, keep growing crops clean and the soil finely pulverized.

Clean off Asparagus beds and fork in lightly a good coating of manure. Celery may be planted for the main crop. The trench plan of planting is still most generally used. Cabbages for main crops should be put out, also Cauliflowers. Lettuce may be planted; choose the coolest part of the garden; give it an occasional good watering if practicable. Keep Sweet Potatoes free from weeds, and stir the ground. Sugar Corn may still be planted in the first half of the month. Herbs should be cut for drying as they are about to bloom.

Agricultural Calendar.

Work for the Month—July.

Wheat Harvest.—It is probable that most of the readers of the *Farmer* will have completed their labors in this direction before the present number reaches them. Should it still be unfinished we can now only repeat our admonition to employ the best hands obtainable and plenty of them, and to push the work as fast as proper handling will allow, taking every precaution against careless putting up, from which so frequently great loss ensues after the grain is cut.

Hay Harvest.—This, too, will need to be forwarded as much as possible. Timothy especially requires to be cut before the seed so fully mature as to allow the quality of the hay to deteriorate. The best time to cut is when the seed is in the milk state, and care should be taken not to cut too close to the ground, which injures its future growth. This grass should be cured as quickly as possible and gotten under cover.

Cultivation of Corn.—This crop ought to be about ready to lay by. Frequent shallow workings will keep the crop clean and the soil porous, so that the fertilizing properties and the moisture of the air will be absorbed. Yet it sometimes happens that in very arid weather the scorching heat does more harm than the working does good. Cultivating alternate rows is sometimes resorted to with advantage, so that the hurt done on one side of the rows first worked in the unavoidable laceration of their roots will be measurably repaired by the time the cultivator is run down the other sides.

Fall Potatoes.—Keep these clean by frequent workings until they are in blossom. No crop is more injured by weeds and grass. An occasional top-dressing of ashes, salt and plaster, mixed,—say one bushel each to the acre,—will be found serviceable. For suggestions on the destruction of the Colorado potato beetle, see last number and elsewhere in present one.

Millet and Hungarian Grass may be sown up to the middle of the month. Good preparation of the land and ample manuring will produce a crop that will go very far towards supplying any deficiency of grass.

Fodder Corn.—A crop of this may be put in up to the middle or even the end of the month. Its value will be appreciated if needed either for use when green or cured. Sow in furrows or drills from two and a half to three feet wide. Run the cultivator through the rows two or three times. Cut when the pollen falls freely from the tassels

If to be cured it should be cut and put up in moderate-sized shocks, or, if convenient, piled against the fences, making the layers say a foot thick. When fully cured remove under cover.

Buckwheat may be sown up to the middle or even the end of the month. The land ought to be carefully prepared and well enriched if a good crop is sought, although this grain will do well on comparatively poor soils. An application of about 200 lbs. of a good superphosphate will go far towards ensuring a crop. From half a bushel to three pecks of seed to the acre is sufficient. Harrow it in and roll.

Ruta Bagas may be sown till the 20th of the month, or even a little later. See last month's notes.

Flat Turnips may be put in from the 20th of this to the same date in next month, the crop from late sowings not being so large usually in quantity but better keepers. A sandy loam, naturally good, or well enriched, is the best soil for these roots, and newly cleaned land or a fresh turned sod seems to suit them better than any other ground. Super-phosphates are peculiarly grateful to these crops, and ashes also make a valuable application. The land ought to be well ploughed and harrowed. The seed is generally sown broadcast and lightly harrowed or brushed in. Sow as soon after the ground is prepared as possible, as the seed germinates quicker and so escapes the fly.

Plowing.—This ought to be well done, so that the land may do the next wheat crop as well as the owner the fullest justice.

Timothy Meadows, when to be set in August, ought now to be made ready by ample plowings and harrowing, and the finer the mechanical condition of the soil the better the chances of a crop, and the less seed required.

Tobacco needs careful working, that the soil may be mellow and clean of grass and weeds. Pains should be taken to destroy the worms, for which perhaps a flock of turkeys is as efficacious as anything else to be used.

Live Stock.—See that working animals are fed and watered regularly. Put tar in the troughs of sheep as a protection against the fly. A little salt sprinkled on it will ensure its application to their noses. Hogs ought to have the run of a clover field now, or at least some green food.

Fences.—After harvest have these looked over and necessary repairs made, and clean out the corners.

Live Stock.

Mr. Archer on Feeding Cattle

(*Before the Maryland State Agricultural Society.*)

The most important thing is to select the right sort of cattle. A person who knows very little about feeding cattle, if he has the right kind, can succeed better than one who knows all about the business, who has inferior stock that have no stretch or outlet in them. I think it would pay a man better, if he does not know a good thrifty steer and is no judge of cattle, to pay a man, who does know, a commission for buying them, and another man to sell them for him.

I always try to get good ones, and, of course, have to pay good prices; but if a man has good stock, he can always sell, even if the markets are very dull. For stall-feeding purposes, I would prefer a steer to weigh not less than 1,000 lbs.; that kind, of good quality, could be bought last fall at about 5 cents per lb., and they are now worth at least 6¼ cents. They should increase

in weight at least 400 lbs. by July 1st, which would make the increase per head $40 to $45, and the meal they would eat would be worth from $10 to $15, besides the rough feed, on which we only place a nominal value, because we are so far from market.

I would prefer a steer to go away about July 1st, or before the markets began to fall, than to leave the stall in March or April, for two reasons: if they go away in March or April they will have to be fed on at least ½ bushel of meal ground in the cob, or mixed with oats and bran; or, in other words, as much as he can eat. Now there are but few persons who can do that without putting the cattle off their feet, which is very injurious to them, and it requires several days to restore them again to their appetite; whereas, if you are feeding for the July market, half that quantity will do, and they never get off their feet without they are sick, or from similar cause. So, if you are feeding cattle "half feed," any trusty person can do it; but in full feed, it takes an experienced person who fully understands the business.

I reason if a steer will weigh 1,200 lbs. in March, he will weigh 1,400 in July, and, generally speaking, is worth as much and often more in July than March; they are worth at least ¼ cent per lb. more now than last March. But the biggest profit after all from feeding cattle is the manure. I wheel it out of stables every day into the yard, under sheds, and let the cattle tramp it (tramped manure never heats) until they are turned out to grass, and then haul the manure out on the pastures.

Mange, Itch, &c.

Mange, itch, &c., in cattle, hogs, dogs, and all other animals, are caused by little insects in the skin. To get rid of the these you must drive them out by the internal use of sulphur, or kill them by the external application of soapsuds, quicksilver, nitric acid, &c. No insect or worm can live in the abdomen or skin of an animal while its system is under the influence of sulphur. It is a sure preventive of worms in hogs, mange in cattle, and all skin diseases to which animals, including birds, of all kinds are subject. Hence I call it my universal remedy.

There would be but few diseases among stock if they were under the influence of sulphur; besides it is worth almost as much as it costs for food. It aids digestion, prevents costiveness, and acts like a charm upon the bowels and kidneys. It would pay any farmer who has one dozen head of stock, much less we who have 200 or 300 head, to use a little sulphur daily in their salt or food.

It has often been said that sulphur is dangerous in cold and wet weather. This is a mistake. I have often used it in large quantities on horses, cattle, hogs, and sheep, while they were exposed all day to the rain and snow. However, it is better, when used externally with grease, to apply it on a warm day, when the sun is shining, or, if the weather be inclement, to keep the animal under shelter. It is not to the interest of the owner to expose his stock to inclement weather, be they sick or well.

I have been breeding and dealing in stock about ten years, and owned from two to three hundred head annually, and have not yet had one to die of disease, if I am not mistaken, except a few hogs of the so-called cholera. My secret has been prevention. If you would be successful in the breeding of stock, let me suggest that you never own a scrub. Get the best of pure-bred cattle, horses, hogs, sheep, &c.; take good care of them by providing good warm shelter and an abundance of good nutritious food, and use prevention for all diseases. Fine stock is less subject to disease than scrubs, and yield a larger per cent. on the money invested.—*Cor. N. Y. Times.*

Scab in Sheep.

The following is from the transactions of the Highland Agricultural Society of Scotland:

It is clearly ascertained by scientific men that the scab in sheep, like the itch in the human being, is connected with and propagated by certain minute insects belonging to the class of acri, which inhabit pimples or pustules. But the question naturally arises, how came it first into existence? This problem is very difficult of solution, and puzzles the most eminent physiologists. But, as I have already said, I have never known it to break out spontaneously among a flock of sheep, properly managed, during thirty years' experience as a shepherd in pastoral districts. Various and conflicting opinions exist as to what extent the disease is infectious. Some affirm that it requires sheep to come in contact with the disease before it can be communicated, while others maintain that the disease is propagated by the mere travelling on the road, such as a public drove road, from large markets or fairs. I, however, do not think the disease is so catching as the latter advocates affirm. For example, I acted as shepherd for sixteen years, on various farms, where the drove road from Falkirk to the South passes through the sheep pastures, and every year some of the lots of sheep were more or less affected with scab, and during all that period not a single sheep of which I had charge caught the disease.

The cure of scab lies in the destruction of the insect, but the important question is, what is the best composition or infusion for that purpose. The remedies that are commonly applied are numerous, but the most effectual, with the least danger of injuring the animal, that I have ever seen applied, is the common spirits of tar; and, if properly applied, will penetrate and destroy the insect concealed in the pustules, or buried beneath the skin. The quantity applied may vary according to the age of the sheep, but for hill, or ordinary breeding stock, one bottle of spirits of tar, mixed with twelve times the quantity of water, is sufficient for twelve sheep; or one common wine-glass of the spirits of tar, mixed with twelve times the amount of water, is sufficient for one. If mixing for a hundred, six gallons of water with six pounds of common soda ought to be warmed to the boiling pitch, then add the spirits of tar.

Blind Staggers in Pigs.

Prof. Law, a good authority, gives the following:—When the hog is attacked, dash bucketfuls of cold water over the body, throw a purgative injection into the rectum, composed of six ounces of sulphate of soda and one or two teaspoonsful of spirits of turpentine in ten ounces of water. Setons saturated with turpentine may be inserted under the skin behind the ears, or the back of the neck may be blistered by rubbing in the following mixture: Spirits of turpentine and liquid ammonia one ounce each, with powdered cantharides two drachms.

FOOT-ROT OR FOULS IN CATTLE.—Says a correspondent of the *Rural New Yorker*:—The foot-rot can easily be cured by simply taking a tarred rope, drawing it smartly through the split in the hoof a few times, when it will give out a bad stench; remove the rope and fill the raw wound with fine salt. One application is all that is necessary generally; keep the animal from the wet barn-yard—which is a fruitful cause of this disease; have had six or eight so afflicted at once, always effecting a speedy cure by using the means described above.

THE SHORT-HORN CATTLE advertised by Dr. Drevar, of Annapolis, would be found, we believe, a bargain by any one wishing that kind of stock.

The Dairy.

Care of Dairy Stock.

Mr. Willard's new "Practical Butter Book" has the following suggestions on the care of milch cows:

The success of butter dairying depends so much upon the care and feeding of the stock that no manual on butter-making would be complete without touching upon this branch of the business. It is really astonishing what a large difference in the yield of milk it makes by attending properly to a number of small things in the management of stock—things which would seem to many quite too insignificant to be worth observing. The dairyman should have a genuine, hearty love for the animals under his control, attending to every detail for their comfort, providing wholesome, nutritious food, pure water and pure air—everything of this kind in abundance—keeping the animals properly sheltered from storms; feeding always with great regularity; paying the most marked attention to the time and manner of milking, and, withal, preserving a uniform kindness and gentleness of treatment throughout every operation, a gentleness extending even to the tones of the voice.

Generally speaking, that cow will do her best that is loved the best and petted the most by those who have her in charge. If you wish a cow to do her best you must cultivate her acquantance intimately, and be unsparing in little acts of kindness. You may whip and torture a cow into submission, but she will strike the balance against you in the milk pail. One of the greatest faults among dairy farmers to-day is lack of kindness and consideration to domestic animals. Cows should be petted daily, and be made to feel that man is a friend and protector. All pain, fright and uneasiness checks the secretion of milk, and the man who is passionate and abusive to his herd never did and never can realize a full yield of milk from it. I think that any one who has the charge of animals should study their character and disposition. It is an interesting study, and, under the law of kindness, you will not unfrequently bring out wonderful traits and exhibitions of affection, which will show a forethought and design which may well be ranked with the higher intelligence of reasonable beings.

Questions for Dairymen.

Every dairyman should have a printed list of questions posted in some suitable place on his premises, where his family and those in his employ, as well as his visitors, will have opportunity to read frequently. We give some of them, but the list can be extended:

Do your cows feed in swamps and on boggy lands?

Have you good, sweet running water convenient for stock, and is it abundant and permanent in hot, dry weather?

Have you shade trees in your pasture, or do you think that cows make better milk while lying down to rest in discomfort in the hot broiling sun?

Do you use dogs and stones to hurry up the cows from pasture at milking time, thus overheating their blood and bruising their udders?

Do you cleanse the udders of cows before milking by washing their teats with their own milk, and practice further economy by allowing the droppings to go into the milk pail?

Do you enjoin upon your milkers to wash their hands thoroughly before sitting down to milk, or do you think that uncleanliness in this respect is not important for milk that is to be treated for butter-making?

When a cow makes a misstep while being milked, do you allow your milkers to kick her with heavy boots, or to pound her over the back and sides with a heavy stool, accompanied by sundry profane remarks addressed to the cow to teach her manners?

Is the air about your "milk barn" or milk house reeking with the foul emanations of the pig sty, the manure heap, or other pestiferous odors?

Good, fresh, clean water, and in abundance, is one of the most important requisites for milch cows, and it should be in convenient places, where stock will not be required to travel long distances to slake their thirst. If springs and running streams cannot be had in pastures, a good well, with windmill and pump, makes an efficient substitute, and the waste water may, if necessary, be conducted back into the well, so as to keep up a constant supply of good fresh water.

Poultry Yard.

The Embden Geese.

The *Canada Farmer* has the following on this variety:

The Embden goose has prominent blue eyes, is remarkably strong in the neck, and the feathers from near the shoulder to the head are far more curled than is seen in other birds. The plumage is uniformly pure white, the bill flesh color and free from dark blotches, and the legs and feet orange. In carriage they should be tall and erect, with fine square bodies, which in fat specimens touch the ground. They come to enormous size; a three year-old gander has weighed as much as thirty-two pounds, and a goose of the same age twenty-six, but a good bird of any breed weighing twenty pounds is considered very fine, and for breeding purposes such weight is quite sufficient to ensure good stock.

The Embden goose seldom lays till after a year old. Their eggs are white in color, very large and rough in the shell, which is extremely thick. Regular goose breeders rarely, if ever, allow the geese themselves to sit, but put from three to four eggs under a Cochin or Dorking hen, which can well cover and take care of them. A turkey hen also makes a capital mother. The eggs should be regularly sprinkled with luke-warm water to prevent the shell becoming so hard as to check the egress of the young.

Sometimes, but not often, they lay two settings of eggs in a season. The period of incubation is thirty days.

The goslings are easily reared on the same food as ducklings, but they require green food as well, and for this purpose young green onions are strongly recommended. When once fledged, they will thrive well with no other food than can be procured by them in the field or by the wayside, until later in the fall, when they should be shut up for a few weeks, and fed on meal, oats, &c.; they will lay on flesh quickly and come to great weight. Embden geese do not necessarily require much water, but of course, to look well, the pure Embden geese will require a large pond or brook to wash themselves in.

One of the great advantages of the Embden geese is, that all their feathers being perfectly white, their value where many are kept is far greater in the market than is even the case with "mixed" feathers. The quiet domestic character of this variety causes them to lay on flesh rapidly. They never stray away from their home, the nearest pond and field satisfying their wants, and much of their time is spent in quiet repose. Their flesh is equal to that of the famous Toulons of France. Mr. Hewitt says, "these birds have an advantage even over the Toulouse. In instituting comparisons between the white and colored geese, I have noticed that the pendent abdominal pouch of the Toulouse tells sadly against it when dressed, and would undoubtedly be prejudicial against its sale, in accordance with current opinion of such an appendage being indicative of advanced age."

All white aquatic poultry are considered to dress of a clearer and better appearance than the parti-colored or dark-feathered birds, more especially when young. This arises from the patches where the dark feathers grow showing even after being carefully plucked, more particularly if the plumage at the time they are killed happens to be immature.

Good Range and Plenty of Water.

A correspondent of the *Poultry Argus* gives the suggestions below on these topics:

I have for many years been a poultry fancier, and for a few years have bred the Asiatic and French varieties, and am satisfied that it pays better than the same capital in any other investment.

Although the past year has been a very unfavorable one, and many poultry yards have been almost entirely depopulated by diseases incident to fowls, still this is no argument against the improvement of our domestic birds. Large numbers of fowls cannot be successfully reared together especially in limited range, and this is often a cause of defeat with inexperienced fanciers who are anxious to increase their numbers beyond the capacity of their accommodations, and ready to ascribe the cause to something else, for which they look forever in vain. This is the rock on which I split, and it was only by sad experience that I learned the truth that beyond a certain limit you must not attempt to go, and if you do your chances are, to loose all. As to the number of fowls which may be successfully reared on a given amount of space, that will depend on the location and surroundings. If the ground be high and dry, and remote from marshes, a larger number will thrive than on low and swampy ground, and although a pure and plentiful supply of water is indispensable, it should be supplied either by an active stream or a dripping fountain. It has been estimated that one acre of ground is enough for 300 fowls, but my opinion is to the reverse, and that three acres of ground will better accommodate 100 fowls. In conclusion, let me say that upon the hygienic surroundings of your poultry yards, buildings, &c., much of your success will depend.

The Apiary.

Hiving Bees.

Dr. S. J. Parker, in the *Germantown Telegraph*, gives the following on this subject:

Allow no one to stir or make a noise while the bees are lighting. What! Not blow a horn, ring a bell, drum on a tin pan or throw dust or water? Not do anything? Yes, reader, just exactly; do nothing but keep still. Now, I followed this rule in over eight hundred swarms I have hived for myself and others, and to tell you the fact, I have not lost a single swarm in all that number.

Bees will not go two hundred feet from the hive they come out of, if you let all be perfectly quiet and there is anything for them to light on. Of my bees, not one swarm out of a hundred goes even one hundred feet before it lights. So it will be with your bees, reader. Then make it a rule to have no stirring, no noise, but all quiet

until they are well lighted. Then bring out the hive from the cool cellar—where it has been but a day or two, lest it get damp and mouldy—neat and clean, and as you of course have the strips of boards or sticks, boards, hiving-cloth, etc., ready, proceed to place your ladder and platform in the tree or on the ground, and other appliances, so that before the last bee has lit you are ready to hive them.

Never put a swarm of bees directly into a hive. You ask why? Because, if you do, they may not know it is a hive they are in, but only think they have had a slight accident while on their place of lighting; so they will leave the hive and go off to the woods, because they don't know they are hived. Hence you will place the hive so that when shaken off the limb they lit on, they all have to creep buzzing into the hive, and all go voluntarily up on the inside of it—and they will not make the mistake of thinking they are not hived, but will know they have accepted a hive.

You need not be very quiet or slow about making bees go into a hive. You minded the bees till they lit, now it is time to change and make them mind you. A gentle rudeness in shaking them off the limb, is as good as saying to them: "bees, you have left your lighting place." If they do not go up into the hive readily, take a dipper or flat piece of shingle or board, dip up a few (a pint or so) and shake them roughly close to the hive, then brush the rest towards the hive rapidly but gently.

As soon as most of them are in, be ready to remove them to their permanent stand. In this way you avoid the coming out of a second swarm, and the lighting and commingling of two swarms. Thus you ought to get rid of the few bees always uneasy and flying about the swarm, and the ones which doubtless find and lead the swarms off to a hollow tree or log in the woods. These bees are rarely over forty or fifty in number; not over ten, often.

Remember to shade the new hive from the sun until the hatched brood is in the new comb.

Maryland State Agricultural Fair.

We notice by the daily papers that the List of Premiums for the Annual Exhibition has been issued. We have not yet received a copy, but parties interested can obtain all necessary information by application at the Society's office.

We also see that it is announced that the present officers of the Society have all been re-elected for another year.

Cotton Convention.

A congress of men representing the cotton-growing States of the Union will assemble at Raleigh, N. C., on the 13th of July next. Hon. D. E. Butler, of Georgia, is the President of the body, and all agricultural societies and State or co-operative Granges are invited to send delegates and take part in the proceedings. The leading question will be the production and transportation of cotton and other Southern products, but there will be side or auxiliary matters brought up and discussed of a most interesting character.

A Good Example.

In our December issue we gave an extract from an address by the Commissioner of Agriculture of the State of Georgia, Thos. P. Janes, and in the same month's issue of the *Southern Cultivator* we find the following notice of that gentleman:

"Agriculture is steadily and rapidly gaining ground. Its devotees are becoming more intelligent—its processes more rational, its harvests continually larger when contrasted with labor expended. With these advances, it is acquiring a more commanding position, both abroad and at home. Special schools for the education of farmers have been or soon will be established in all the States, and, in many, a *Department of Agriculture* has been created to foster and advance, so far as this can be done by the State in its public capacity, this important and overshadowing interest. The State of Georgia, unwilling to be behind the foremost in true progress, created such a department during the last session of her Legislature, and the Governor has placed at the head of it Dr. Thos. P. Janes, an experienced practical *farmer* of liberal education, of indomitable energy, long and actively identified with the State Agricultural Society, and *not a broken-down politician*. Surely, the world *is* moving, when a genuine, bona fide *farmer* is awarded a public position of honor, profit and trust."

The Headquarters of the National Grange

of the Patrons of Husbandry have been removed from Washington, D. C., to Louisville, Ky. The official report of the Secretary shows the Order to be in a flourishing condition, there being 23,500 subordinate lodges, with a membership of 1,500,000. The Order has $69,000 invested in Government bonds, and $19,000 on deposit in New York.

Granges of Patrons of Husbandry in Md.

We give in the two following pages, as likely to be interesting and useful, a list of the Granges in Maryland, with the names of the master and secretary of each, and the post-office address of the latter officer. For this list we are indebted to Mr. Edward Hall, of B., secretary of the State Grange.

MONTGOMERY CO. (MD.) GRANGE.—This county grange was organized June 1st, and the following officers elected: Master, E. J. Hall; Overseer, J. H. Dodge; Lecturer, E. B. Prettyman; Steward, W. L. Day; Assistant Steward, J. McDonald; Chaplain, F. A. Tschiffely; Treasurer, J. T. DeSellum; Secretary, P. T. Stabler; Gate Keeper, Jno. W. Horner; Ceres, Mrs. P. T. Stabler; Pomona, Mrs. Jos. T. Moore; Flora, Miss Lucy Rice; Lady Assistant Stewardess, Mrs. Anna Wilson.

No.	Name.	Master.	Secretary.	P. O. Address.
1	Advance	Jos. H. Balderston	Geo. Balderson	Colora, Cecil.
2	Enterprise	Jas. W. Hurtt	John R. Gilt	Kennedyville, Kent.
3	Cecil	A. H. Briscoe	Thos. J. Wilson	Rising Sun, Cecil.
4	Buckeystown	J. N. Chiswell	F. G. Thomas	Buckeystown, Frederick.
5	Eastern Star	Col. Jno. B. Thomas	Sam'l Dutrow	Frederick.
6	Laurel	J. T. Radcliffe	F. C. Adams	St. Michaels, Talbot.
7	Olney	Jos. T. Moore	Washington Bowie	Olney, Montgomery.
8	Fairlee	Jno. W. Corey	Howard Meeks	Fairlee, Kent.
9	Progress	Dr. Wm. G. Williams	T. W. Hall	Millersville, A. A.
10	Howard	Jos. Barlow	Jos. Hunt	Ellicott City, Howard.
11	Eureka	Wm. Hepbron	C. B. Krusen	Still Pond, Kent.
12	Rockville	Jno. E. Willson	Jno. W. Horner	Rockville, Montgomery.
13	Hope	Dr. F. Worrell	Robert S. Nicholson	Chestertown, Kent.
14	All Hallows	Thos. S. Iglehart	Thos. S. Beard	Davidsonville, A. A.
15	West River	H. M. Murray	Dr. Jos. R. Owens	Bristol, A. A.
16	Forest	F. M. Hall	Geo. W. Brooke	Oak Grove, P. G.
17	Ashton	W. M. Stabler	A. G. Thomas	Sandy Spring, Mont'y.
18	Collington	Rich'd L. Ogle	C. C. Brown	Collington, P. G.
19	Hillsboro'	Wm. E. Barton	Jas. T. Anthony, Jr.	Hillsboro', Caroline.
20	Severn	E. A. Owens	Robert F. Dodson	Crownsville, A. A.
21	Marlboro'	C. C. West	C. C. Magruder, Jr.	Marlboro', P. G.
22	Johnsville	Jno. Wolfe	Thos. Jones	Johnsville, Frederick.
23	Urbana	Samuel Hinks	Chas. E. Worthington	Urbana, "
24	Bethesda	J. H. Dodge	Jos. Reading	Georgetown, D. C.
25	Friendship	H. O. Devries	Henry E. Challis	Glenelg, Howard.
26	Resolute	Wm. Snowden	Geo. W. Kellogg	Laurel, P. G.
27	College	C. B. Calvert	E. S. Calvert	College Station, P. G.
28	South River	Dr. R. Weems	J. W. Bird	West River, A. A.
29	Pomona	Grafton Duvall	Thos. C. Boone	Annapolis, A. A.
30	Union Bridge	Thos. F. Shepherd	Solomon Shepherd	Union Bridge, Carroll.
31	Planters	Dr. Thos. Owens	Henry A. Drury	Bristol, A. A.
32	Reliance	Jacob Ammen	Jno. G. Hall	Beltsville, P. G.
33	Darnestown	Geo. R. Rice	Edgar L. Tschiffely	Darnestown, Mont'y.
34	Bloomingdale	Jas. W. Wilson	P. A. Bier	Rawlings, Alleghany.
35	Croom	J. E. Q. Early	Zach. R. Morgan	Croom, P. G.
36	Nottingham	W. W. Waring	W. T. Wallis	Nottingham, P. G.
37	Patapsco	Wm. C. Polk	Trusten Polk	Sykesville, Carroll.
38	Pioneer	Wm. F. Wilson	Jno. T. Wilson	Barron Creek Sp's., Wic.
39	Washington	Jno. I. Bitner	Jno. M. Newcomer	Beaver Creek, Wash'n.
40	New Market	H. N. Lansdale	Dr. J. W. Downey	New Market, Frederick.
41	Glenwood	G. W. Linthicum	A. Chadwick	Glenwood, Howard.
42	Annapolis	Gen. L. Gittings	Richard McK. Davis	Annapolis, A. A.
43	Denton	C. A. Dunning	Jno. E. Wilson	Denton, Caroline.
44	Catoctin	D S. Firor	Henry C. Foreman	Mechanicstown, Fred'k.
45	Potomac	Moses Poffenbarger	Sam'l Nicodemus	Sharpsburg, Washington.
46	Patuxent	A. G. Woodward	J. R. Woodward	Odenton, A. A.
47	Bryantown	Dr. Samuel A. Mudd	F. L. Dent	Bryantown, Charles.
48	Arlington	Jas. H. Hobbs	J. E. Buck	Cooksville, Howard.
49	Ivy	Dr. J. T. Williams	J. O. Devries	Marriottsville, Howard.
50	Westminster	Geo. W. Matthews	Jacob Myerly	Westminster, Carroll.
51	Great Falls	Jno. McDonald	Frank Kilgour	Offutt's X Roads, Mont'y.
52	Ivy	Daniel Fields	H. P. Chambers	Federalsburg, Dorchester.
53	Gaithersburg	Thos. R. Suter	Jos. Thompson	Gaithersburg, Mont'y.
54	Liberty Grove	L. H. Duvall	W. S. Duvall	Spencerville, "
55	Huntingtown	C. R. Belt	W. H. Norfolk	Huntington, Calvert.
56	Chaptico	A. L. Taveau	G. R. Garner	Chaptico, St. Mary's.
57	Crescentia	Hugh Mitchell	Wm. Boswell	Port Tobacco, Charles.
58	Forestville	Barnabas Bryan	W. J. Latimer	Forestville, P. G.
59	Brandywine	Wm. M. Wilson	Robert E. Baden	Brandywine, P. G.
60	Brighton	Isaac Hartshorn	Chas. R. Hartshorn	Brighton, Mont'y.
61	Highland	F. Bowie Smith	Dr. J. S. Smith	Dunkirk, Calvert.
62	Friendship	Dr. Alex. Mathews	Robert Bartlett	Trappe, Talbot.
63	Easton	E. L. F. Hardcastle	Henry Hollyday	Easton, Talbot.
64	Wheatland	V. W. Baszman	Dr. H. J. Hebb	Randallstown, Balto.
65	Chapel	Chas. M. Jump	Frank A. Hendricks	Longwood, Talbot.
66	Petersville	M. W. Fout	Jno. Hilleary	Petersville, Frederick.
67	Spaniards Neck	W. T. P. Turpin	E. B. Emory	Centreville, Q. A.
68	Valley	Martin Startzman	M. H. Huyett	Hagerstown, Wash'n.
69	Wicomico	G. M. Lloyd	Samuel G. Lancaster	Newport, Charles.
70	Limestone Valley	Dr. W. W. Watkins	J. Thos. Clarke	Clarksville, Howard.
71	United	Wm. R. Dorsey	Jno. B. Runkle	Plane No. 4, Frederick.
72	Clifton	Samuel B. Wilson	Dr. J. A. Baden	Prince Frederick, Calvert.
73	Chesapeake	Dr. G. W. Dorsey	Dr. W. P. Dorsey	Pt. Republic, "
74	Farmers	Jno. T. Jump	W. F. Bailey	Centreville, Q. A.

No.	*Name.*	*Master.*	*Secretary.*	*P. O. Address.*
75	King's Creek	Henry P. Hopkins	Jas. P. Reese	Woodland, Talbot.
76	Prince Frederick	Dr. Geo. H. Jones	Chas. S. Parran	Prince Frederick, Calvert.
77	Barnesville	Geo. R. Hays	Leon'd I. Hays	Barnsville, Montg'y.
78	St. Leonards	Dr. J. A. Sedwick	Walter E. Hellen	St. Leonard's, Calvert.
79	Hyattstown	Levi Price	Asa H. Welsh	Hyattstown, Mont'y.
80	Damascus	Benj. F. Landsdale	Philemon M. Smith, Jr.	Damascus, "
81	Aquasco	P. A. Bowen	J. C. Thomas	Aquasco, P. G.
82	Horse Head	J. B. Perrie	Jas. W. Richards	Horse Head, P. G.
83	Hughesville	Dr. Thos. A. Carrico	A. F. Lawrence	Hughesville, Charles.
84	Sartorian	Edgar Griswold	F. B. Green	Duffield, "
85	Zachia	Dr. B. A. Jameson	Peter W. Robey	Cox's Station, "
86	Olive	Dr. A. J. Smoot	W. C. Page	Newburg, Charles.
87	Centralia	Lloyd E. Dorsey	Jas. P. Haslup	Annapolis Junction, A. A.
88	Good Intent	H. H. Kimble	S. T. Kimble	Fair Hill, Cecil.
89	Friendship	Ham. G. Webb	Arthur Carr	Friendship, A. A.
90	Piscataway	Edward H. Wyvill	Thos. H. Lattimer	Piscataway, P. G.
91	Spring Grove	John A. Coe	F. A. Rowe	T. B., Prince George's.
92	Chewsville	Nathanial Sehner	Luther M. Bovey	Chewsville, Washington.
93	Unity	Consolidated with No. 60.		
94	Charlotte Hall	L. W. B. Hutchins	H. Clay Dent	Charlotte Hall, St. Mary's.
95	Agricola	Thos. R. Halley	W. C. Warren	Pomonkey, Charles.
96	Durham	S. W. Adams	R. Harrison Posey	Cross Roads, Charles.
97	Middletown	Horatio Zittle	Herman L. Routzahn	Middletown, Fred'k.
98	Royal Oak	Jas. B. Adams	E. T. Benson	Royal Oak, Talbot.
99	Wye, (in Q A. Co.)	John Dodd	E. B. Vandyke	Wye Mills, Talbot Co.
100	Poolsville	Isaac Young	Richard Poole	Poolesville, Montgomery.
101	Oxford, (in P. G. Co.)	Jas. E. Halley	H. S. Halley	Anacostia, D. C.
102	Delmar	E. M. Lowe	Eli S. Hastings	Delmar, Wicomico.
103	Great Mills	Thos. A. Lynch	John Shadrick	Great Mills, St. Mary's.
104	Leonardtown	J. C. Greenwell	John F. King	Leonardtown, St. Mary's.
105	Sunderlandvi'e, C.Co	Dr. J. F. Ireland	R. Howard	Friendship, A. A.
106	Myrtle	Dr. E. J. Henkle	C. Warfield	Brooklyn, A. A.
107	Quantico	A. J. Horsey	Robert G. Robertson	Quantico, Wicomico.
108	Oakville	Jo. Forrest	Jas. T. Parsons	Oakville, St. Mary's.
109	Millstone Landing	Geo. Thomas	Jos. C. Cradlock	Park Hall, St. Mary's.
110	Greensborough	Wm. J. Clark	Jno. F. Dawson	Greensborough, Caroline.
111	Flintstone	Jas. Wilson	Jno. McElfish	Flintstone, Alleghany.
112	St. Inigoes	Jno. M. Brome	Jas. F. Ellicott	St. Inigoes, St. Mary.
113	Patuxent	Dr. Walter H. Briscoe	Col. Thos. H. Bond	Hollywood, "
114	Pt. Lookout	Jas. R. Langley	O. N. Evans	Ridge, "
115	Battle Creek	Jas. A. Bond	Abraham J. Williams	Prince Frederick, Calvert.
116	Calvert	Wm. H. Hellen	Jas. B. Breedon	Cove Point, Calvert.
117	Franklin	Dr. F. L. Crawford	Benj. F. Selby	Waterville, Caroline.
118	Harford	B. H. Keen	J. H. Michael	Perrymansville, Harford.
119	Preston	W. H. Smith	Dr. H. F. Willis	Preston, Cn.
120	Cambridge	Geo. E. Austin	A. Hamilton Baily	Cambridge, Dorchester.
121	Chester	H. C. Pennington	Edwin W. Spear	Millington, Kent.
122	Atlantic	Z. G. W. Purnell	Charles Stern	Whaleyville, Wor.
123	Magothy	M. S. Dunlap	Dr. Elijah Williams	Jacobsville, A. A.
124	Forest	K. M. Jacobs	Jos. B. Andrews	East New Market, Dr.
125	Patapsco	Thomas B. Todd	John Todd	No. 15 Baltimore St., Balt.
126	Bohemia	D. Z. Evans	John E. Diament	Chesapeake City, Cecil.
127	Gunpowder	Col. B F. Taylor	Dan'l Shaffer	Chase's Station, Balto.
128	Pleasant Grove	Jeremiah Whalen	Moses R. Wilson	Cumberland, Alleghany.
129	Nanticoke	Jas. J. M. Gordy	Rigby W. Wheatley	Galestown, Dorchester.
130	Vienna	Dr. Levin Hodsen	M. T. R. Fooks	Vienna, Dorchester.
131	Kent Island	Edward C. Legg	J. Carrow Tolson	Broad Creek, Q. A.
132	Somerset	Dr. A. D. Woodruff	Thos. W. Holbrook	Princess Anne, Somerset.
133	Potomac	J. E. S. Pryor	L. A. Huyett	Hagerstown, Washington.
134	Lewistown	Geo. W. Miller	W. W. Zimmerman	Lewistown, Frederick.
135	St. Paul	Abrm. K. Ditto	Geo. W. Hahn	Conococheague, Wash'g.
136	Pocomoke	S. K. Dennis	W. Scoolfield	Newton, Wor.
137	Snow Hill	R. S. Todd	J. D. Hack	Snow Hill, Wor.
138	Sassafras	Wm. M. Knight	W. S. Potter	Cecilton, Cecil.
139	Freedom	N. D. Norris	Geo. M. Prugh	Freedom, Car.
140	Queenstown	Chas. J. B. Mitchell	Wm. V. Bryan	Queenstown, Q. A.
141	Antietam	John Summers	Theo. C. Neff	Ringgold, Washington.
142	Manor	Aaron G. Showman	Jno. W. Groh	Breathedsville, "
143	Finksburg	L. A. J. LaMotte	Stev. B. Stocksdale	Finksburg, Car.
144	Cherry Creek	Marmaduke Best	Chas. Best	Oakland, Garrett.
145	Elkton	Lewis H. Roberts	S. B. Grant	Elkton, Cecil.
	New Windsor	Sol. S. Ecker	Daniel H. Engler	Wakefield, Car.
	Wheatland	Arthur Johns	David Stewart	Sassafras, Kent.
	Progress	Ellis P. Passmore	H. C. McDowell	Brick Meeting House.

Crop Reports.

The following is the Department of Agriculture last synopsis of the growing crops:

The condition of Winter wheat generally is still reported comparatively low. A marked improvement is observed since the April and May returns in the Winter wheat prospects of the West, especially in Kansas. The State averages of the condition of Winter wheat in the district beyond the Alleghanies are as follows: West Virginia, 60; Kentucky, 81; Ohio, 57; Michigan, 80; Indiana, 74; Illinois, 64; Missouri, 55; Kansas, 97. The fly and chinch-bug have wrought some injury in the Western States, and drought has been locally injurious. The condition of Spring wheat is much better, though not generally a full average.

The present indications of the condition of Winter and Spring wheat point to four-fifths of a full crop.

Rye promises better than wheat; yet it will not mature a full crop. It is best in Northern New England and in the Gulf States.

There is a small increase in the breadth of the oats crop, caused in part by the abandonment of Winter wheat areas. Its condition is generally good, almost a full average in the States of largest production, but better in central districts than on the Atlantic coast or in California.

Spring barley has less than its usual area in the Middle States, but its acreage has increased beyond the Mississippi. The promise of a crop is moderately good; although the condition is somewhat below an average in most of the States.

Cotton.—The area is increased 1 or 2 per cent. over the average. The comparison with last year is North Carolina, 102; South Carolina, 106; Georgia, 96; Florida, 99; Alabama, 104; Mississippi, 102; Louisiana, 102; Arkansas, 101; Texas, 108; Tennessee, 92. No serious injury has been done by insects.

The area in clover has increased in New England, and still more in the Southern Atlantic States, but has declined in Western States. The adverse influences of Winter and early Spring have depreciated its condition especially in Northern latitudes.

Frosts have been destructive of fruits in large areas which may be considered second or third-class as fruit regions. In the districts depended on for the supplies of great markets fruit prospects range from fair to good in the East, with a less favorable showing in the Western States. In Delaware an average is reported; in Maryland nearly a full crop is expected, and in New Jersey a reduced yield, as also in Western New York, and to a greater extent in Michigan and other Western fruit districts.

[The peach crop of Maryland and Delaware will be in the aggregate, we believe, one of the largest ever produced. This fact might be expected to diminish the profits to growers, were it not for the great preparations being made to market it in remote quarters not heretofore reached, and in others in which the crop was destroyed by frosts.—*Eds. A. F.*]

Received.

We are indebted to Col. Geo. E. Waring, jr., Secretary, Newport, R. I., for a copy of the third volume of the HERD REGISTER OF THE AMERICAN JERSEY CATTLE CLUB. It contains the record of 438 bulls and 916 cows, with lists of the officers and members of the Club, its amended constitution, instructions for making entries, errata for volumes 1 and 2, index of owners, change of ownership, report from the committee on scale of points and the essays on Jersey cattle by Col. Waring and Mr. L. S. Hardin, to which prizes were awarded by the club.

The volume is very neatly gotten up and is of course indispensable to all breeders of Jerseys.

From Messrs. E. Lewis and Jos. N. Sturtevant, South Farmingham, Mass., we have the first volume of their NORTH AMERICAN AYRSHIRE REGISTER. It contains the pedigree of 238 bulls and 521 cows, every animal being traced to importation, with a list of owners, a useful private herd record in blank, &c.

The editors say they have desired to do their work so thoroughly that it may never require to be gone over again, and trust that they have succeeded by the adoption and adherence to a principle clearly defined and appropriate to the nature of the work, viz: to admit of no pedigree unless such pedigree would commend itself as authentic to their own judgment, were they themselves the purchasers.

E. W. Buswell, Esq., the Corresponding Secretary, sends us Part I of the TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY for 1875, a very interesting and instructive account of the addresses and discussions before that advanced association. We shall probably give in our next issue extracts from some of the papers it contains.

From the Industrial Publication Co., 176 Broadway, N. Y., we have PRACTICAL HINTS ON THE SELECTION AND USE OF THE MICROSCOPE, by John Phin; price 75 cents. The microscope now performs so important a part in all sorts of investigations of nature, that a work like this, intended for beginners, ought to and will find many readers. Its descriptions and directions are plain and practical and it fills a much-felt want.

"WIDE AWAKE" is a new juvenile magazine, edited by Miss. Farman and published by D. Lathrop & Co., Boston, at $2 a year Its contents are very attractive, its illustrations good, and from its tone and material it cannot fail to be a favorite with the girls and boys.

From the Rural Publishing Co., New York, we have THE PRACTICAL BUTTER BOOK by X. A. Willard, pp. 168; price $1. Mr. Willard is president of the N. Y. State Dairyman's Association and a well-known authority on all subjects connected with dairy farming. This work treats on butter-making in factories as well as in farm dairies; the selection, feeding and management of stock for butter dairying, plans of dairy rooms, &c. From the author's reputation the book will probably have a large sale, giving the latest improvements in butter-making at home and abroad.

The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

BY SAML. SANDS & SON,

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(sign of the Golden Plow.)

SAML. SANDS, WM. B. SANDS, } Editors and Proprietors.

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One Page.....	20.00	45.00	75.00	120.00

Cover Pages subject to special contract.

Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 20th of the month, to secure insertion in the succeeding issue.

JULY 1, 1875.

Bills.

Our subscribers who have not paid for the current volume of the *Farmer*, will find bills for the same in this number. Some who are further in arrears will also receive similar reminders.

We will thank our friends to remit these amounts as promptly as possible. The individual sums are small and will not be felt, but their aggregate to us is very considerable.

Our readers will kindly remember that by our terms subscriptions are payable in advance, but we are always inclined to be indulgent, especially when, as of late, we are not unaware that money is not very plentiful in the country. But as we are not much given to dunning we hope our request will be the more promptly met.

The True Theory of Farming.

Our correspondent *Freedom*, having borne vigorous testimony against many of the teachings of the present day in agriculture, begins now to practically consider the *true* as opposed to the *false*. If what he has to present is not all novel in substance, it will have the merit of at least presenting in a fresh form the principles which have been settled by the test of well-tried practice. The development of the theory is being regarded with much interest by the readers of the *Farmer*, and while the author's conclusions may receive some dissent, he is confident they are so strongly based on truth that they cannot be successfully assailed.

☞ Mr. Gilmer will offer some of his fine Albemarle lands at public sale in August. See his advertisement, in which he offers to send description to any address.

FINE WHEAT.—We have been shown some handsome heads of wheat, cut before fully ripe, grown by G. C. Kane, Esq., of St. Mary's co., Md.; the fertilizer used being made by one of the formulas of our advertisers, Messrs. R. J. Baker & Co., and costing $32 per ton, or, with the quantity applied, 250 lbs., $4 per acre.

THE NEW YORK STATE FAIR, will this year, take place at Elmira, Sept. 27th to Oct. 1st. The Elmira Farmers' Club offerst wo special premiums, each of $100. One for the best general exhibition of Farm Produce; the other for the best general exhibition of Live Stock. The products to be grown in 1875 upon the farm or farms occupied by the exhibitor; the Live Stock is to be all the *bona fide* property of the exhibitor.

Agricultural Education.

From an exceedingly interesting address delivered by President Abbot, of the Michigan Agricultural College, before the Legislature of that State, several copies of which have been kindly sent us by Wm. H. Marston, Esq., Secretary of the State Board of Agriculture of Michigan, we make the following extracts, which we think will be read with pleasure at this time, when the proposed re-organization of the Agricultural College in our own State attracts considerable attention.

Mr. Marston, by the way, is good enough to pay the *American Farmer* a compliment, which, coming from so high a source, we do not like to keep to ourselves. He says: "Your *Farmer* is really a little gem, and ought to be largely patronized by our Granger brethren." President Abbot says his college has endeavored to be truly and emphatically agricultural, but that the growth has doubtless been slow. Professors of agriculture, agricultural chemistry and horticulture had to be made; or rather, in the face of adverse criticism, with every failure through inexperience open to the world, to make themselves. Text books were not. The schools were filled with teachers, who, coming from other institutions, turned their pupils' ambition to the halls they had left. The course, devoid of classics, crowded with science, compelling to manual labor, and long, was repulsive to many.

COURSE OF STUDY.

The course of instruction at our Agricultural College should be such as to make good farmers, or at least put the students and graduates in the way of becoming such. Let us turn our attention first to the indoor course of instruction. I

believe the law is right in its requirements for admission. This is as follows: "No student shall be admitted to the institution who is not fifteen years of age, and who does not pass a satisfactory examination in arithmetic, geography, grammar, reading, spelling, and penmanship." These branches are not taught at the college. The common schools of the State can carry forward the education of young men so far. To put the standard for admission higher would be to exclude many from the halls of the college who have no means of carrying their preparatory education any higher. As a matter of fact, the average age at admission was (1874) 18¼ years, and the larger part of the freshmen had some knowledge of algebra and other branches. The requirements for admission might be increased with the increased efficiency of our common schools.

PURELY PROFESSIONAL.

Shall the course of study be purely professional? Such courses seldom exist in any schools. Take a medical course of study, and its chemistry belongs to manufactures as well as medicine; its anatomy and physiology are no part of medicine. Huxley studies them not to practice, but to classify the animal kingdom, and Spencer and Bain make physiology the introduction to mental science. Technological schools usually teach sciences as well as their applications, and the modern languages. But it may be thought that while chemistry, botany and the like lie closely enough to the proper fields of an agricultural education, literature, political economy and the like are too remote from its objects to have a place in such an institution as ours. Let me quote to you the eloquent words of Mr. Williams, the first president of this institution: "A farmer is a citizen, obliged to bear his portion of public burdens, amenable to the laws, and in a humbler or wider range, may become an exponent of society. He should be able to execute, therefore, the duties of even highly responsible stations, with self-reliance and intelligence. The constitution of the Union, and of his State, he should comprehend, and the laws and forms relative to township and county officers and their duties. He should be qualified to keep farm accounts, draught ordinary instruments, survey his farm, and level for drains and highways. His native language should be a flexible instrument at his command, which he should speak and write with ease and vigor, that he may instruct and impress others, avert mischief, or inculcate truth. A man moved by earnest reflection or emotion, should have capacity to give them utterance and force in his mother tongue."

If these studies then are highly desirable, if the awakening of a taste for history and other reading, the elements of political economy, correctness and facility of speech are requisite to the education, why should they not be taught at the Agricultural College, if they are given their proper place as subordinate to the special studies that are peculiarly appropriate to the course? They cannot be taught much more cheaply anywhere else, for our classes could be joined to no classes in other colleges without an increase of instructors.

Unless these studies are taught at the college, its students will not have them at all. It is useless to talk of their going to other schools to learn these things. Young men, unwisely, as I believe, take the shortest road to entrance on their life-business. You have only to open catalogues of law and medical schools to see how few are marked as having completed any course of study preparatory to their professional course. Taken altogether, it is scarcely more than one in ten. If, then, students will not take a preparatory course for a short curriculum into the learned professions, all whose traditions favor erudition, they are hardly likely to do so for our longer course, in order to reach a business where an education is commonly thought to be thrown away.

SCIENTIFIC STUDIES.

The sciences have a place very properly in professional schools. The student not only desires to know what to do, and how to do it, but why? The mind prompts to the inquiry after the reasons, so far as they are known, and to speculation where actual knowledge is lacking. Out of this curiosity science arises and is furthered.

The surveyor studies geometry, although he could do ordinary surveying as most persons do, without understanding it; the navigator usually manages his vessel according to rules, but he would often be more competent to his work if he understood astronomy, trigonometry, and physical geography.

It has sometimes been doubted whether agriculture is yet well enough understood to make a knowledge of the sciences of chemistry and botany and vegetable physiology of any great value to him. We know how to do many things; do we know why? We understand the value of rotation of crops in general culture. Does chemistry throw any light upon the reasons? It must be owned that the causes at work in agricultural operations are mostly, as yet, mysterious in their working, and that agriculture is but barely entitled to the name of science. To know what to do and how to do we have to look away from the sciences to the practice of those who are successful farmers. We may visit and talk with them upon their lands, we may see their communications to the papers, we may take the treatises in which the rules of the art have been collected and classified, and it is only by these methods that agriculture is to be learned.

Still the sciences have their uses. It is the desire of thoughtful men to investigate the conditions of growth, and to change the condition of agriculture from that of an empirical art into the nobler one of a science, founded on known principles. They only can aid in this work who have a knowledge of the several sciences out of which agriculture comes.

Agriculture as a routine practice changes. It is not East what it is West. It calls for modifications according to variations of climate, of implements used, of the demands of the markets. One whose knowledge is purely that of a routine might be a model to-day, and in the background to-morrow. A knowledge of science will enable the farmer to understand the discussions that are going on. The unscientific readers of papers, however generally intelligent, cannot understand

these discussions if they involve any accurate knowledge of the sciences. But with such knowledge he can keep up with the discoveries science is making, and find out their applications to his business. A young man who has made the technical terms and principles of any science familiar to himself has received the best of training in the art of observing, comparing, thinking. His present knowledge consisting of general facts in systematic arrangement, becomes the nucleus about which all he sees, or hears, or reads, gathers in orderly array. Modifications in his practice are more easily adopted by him than by his neighbor who does not think.

But even now, science has taken so fair a hold of agriculture that a knowledge of botany, animal and vegetable physiology, entomology, chemistry, meteorology, and mechanics are of essential service to the thoughtful farmer. The relations of fertilizers to vegetable growth are beginning to be known, and chemical analysis to be profitable, and some light has been thrown on fattening processes, the action of soils upon soluble substances, and a variety of other things. Especially are new facts being elicited which admit of classification and useful application, and even now it will be found that scientific knowledge is one of the most valuable aids to the farmer. Science has always vindicated its practical nature. The astronomy that Socrates thought useless, rules the navigation of the world; the "swing-swangs" that were ridiculed in Hooker's time gave us the clock, and what seems more remote from our telegraphs than Galvani watching the contractions of the leg of a frog? Nothing is more practical than science.

For the continuance, therefore, of this education, but just begun at college, and for his best service to society, the student should be well trained in science. But neither student nor teacher should ever forget the agricultural aim in view. The teaching of the sciences should be saturated, as it were, with the agricultural element, with illustrations drawn from the art, and constant applications of principles to the business of the farmer.

In brief, then, the college should impart to the young farmer the elements of such instruction as makes a man and a citizen, should ground him in the sciences on which agriculture depends, should indoctrinate him in the best existing rules and practice of his art, should make him alive to his needs, acquainted with the theories, discussions and experiments going on for its advancement, and fire him with enthusiasm to place his business on a par with those in which skill, intelligence and thorough scientific preparation receive on all hands a due appreciation.

APPLIED SCIENCE IN THE INSTRUCTION.

Practical agriculture is taught as an art, based on experience. The question asked is, what method of management will yield the greatest profit without the impoverishing of the soil? For an answer it goes to the best farmers of the neighborhood, the State, the world, and critically examines how they do. It takes account, of course, of climate, market, cost of labor. It attempts also to give the scholar a wider than a one year's view. It may show that a root crop that does not pay so large returns one year as another in its place would do, may repay in the end, if labor can be put upon it, in the oxidation of the soil which its frequent stirring has promoted, or by the eradication of weeds. It may ask the student to try the effects of a mixed husbandry for a series of years with a succession of sudden changes, as from sheep to hops.

The instruction is given in a series of daily lessons for one half year, and another series of three a week for another half year. Lectures are sometimes given in the fields and barns. The farm now, for the first time since the students received it a wilderness to be cleared and subdued, furnishes an illustration of well-shaped and partially drained fields under a system of rotation of crops. The summer beauty of the farm, is almost entire freedom from weeds, its respectable crops, have elicited high praise from the farmers who have visited it. The stock, which a few years ago was wretched, has become good through a system of a sale of a few inferior for the means of purchasing a better animal.

The operations of horticulture, entomology embracing bee-keeping, the practice of drainage, of surveying, are all elucidated in lectures.

Agricultural chemistry comes in with its course of a half year's daily lectures, and includes dairying, and many other things less treated of in practical agriculture. From a new point of view it reviews much of the ground that practical agriculture goes over. Vegetable physiology, in charge of the professor of botany, does the same. We have, as it were, three professors of agriculture, each in his separate field of labor.

Lying back of these is the science of chemistry in its purer form,—a course of lectures for a half a year followed by three hours of daily work for another half year in the chemical laboratory, and by a half year's daily lectures in chemical physics and meteorology. By a half year, I mean an hour daily five days in the week for half a college year, which year is the same length of time with us as at the university, and at colleges generally.

Similarly botany, vegetable physiology, anatomy, physiology, entomology, geology, lie back of other instruction. Surely our course of study, considered as a whole, is sufficiently distinctive, and holds sufficiently close to the governing idea of an agricultural education.

The older institutions certainly show that little is to hoped from them in the way of educating young men to be farmers. The department of agriculture in colleges and universities have not succeeded in obtaining students. Suppose that an experiment has been tried here which was found to increase the proportion of educated men that go to farming nearly forty-fold, would one not think that farmers would look upon it with favor and some pride? This is what the college and a few like it have done; they have made educated men to be good farmers in forty-fold greater proportion than any or all other colleges, and yet it hangs in doubt each two years whether a legislature of farmers will permit it to live or abandon it to die. Established primarily as a school for instruction, as a reading of the laws and discussions will show, it is looked upon with disfavor because it fails to do as rapidly as some farmers have hoped, some

other things besides educating young men to be farmers.

THEY LEAVE THE FARMS.

Out of a school like this will any graduates return to the farms? Does not manual labor seem ignoble to one whose early youth is given to the acquiring of knowledge and the discipline of mind? Will not the habit of hard and daily manual labor be over-difficult to attain after several years of its disuse?

From almost every quarter the answer comes that it is of no use to try. The prediction flew abroad that no one graduate in one hundred would ever work. Shortly the prediction took the form of a fact, and the newspapers reported that as a fact which was only what everybody predicted. You may read it now in the papers and journals from one end of the country to the other. The graduates, they all say, are not farmers. The schools are all failures.

I am sorry that farmers have joined this cry without waiting to see. For, look you, how dark is the picture? Had it come from examination of facts we might say the schools have been wrongly managed, but when it comes from an expectation, and is held to in spite of facts, it shows what the world thinks of labor and of farmers: that the one and the business of the other is in some way inconsistent with a high education.

This is the way the case was put two years ago in a communication of an educated man to a paper of this State. He says the college is a failure because "nineteen out of every twenty who graduate there never follow agricultural pursuits." He assigns a reason: "And why? Because when a man's brains is educated up to a point where it can provide for the wants of the body without muscular aid it will do it every time in spite of all the sophistry and poetry which can be thrown around the life of toil of a farmer."

This is a gloomy reason that forever confines farming as a business to an illiterate class. It is a reason that debars progress forever, and puts a distance forever widening between farmers and others.

THE REMEDY.

The remedy for this abandonment of the farms is not easy to find. Gov. Seymor, of New York, in a long conversation with me, endeavored to impress on my mind the necessity that young men should learn how to make their homes attractive by inexpensive landscape gardening, planting of trees, arrangement of shrubs, and the like. He showed by full illustrations that the rural taste survives, and affords a genuine pleasure to extreme old age. Others dwell on the necessity of that intelligence and culture among farmers that shall ensure them a higher social position.

COMBINING LABOR AND STUDY.

It seems to me that there is little hope of returning students from a college to a farm in any considerable numbers, if they are permitted to pass their college years without manual labor. I think I see in the retaining of habits of daily manual labor, in the interest which studies and labor may be made to shed upon each other, the beginning of the remedy for this abandonment of the farm by young educated men. It certainly does not lie in the fact that the occupation of a farmer does not afford scope for thought, and a field for the employment of the largest fund of knowledge. Except in the more constant contact with other men, ordinary trades and manufactures and commerce offer no such delights for the man of taste as those that the farmer is privileged to enjoy; the labor is not harder, and is more varied; and the profits compare well with the average returns for any kind of labor. But labor has not received due honor.

Man is the creature of habit, and the customs of the world are against receiving an education and then farming. The college has tried to withstand these tendencies, and one of its best means is its labor system.

[We have not space in this No. to give the detailed account of the College labor system. We may do so in a future one. We will add here Mr. Abbot's remarks on the occupations of the graduates of the Michigan College.]

It has been the design of those who manage the Agricultural College to create a bias towards, and not away from the farm; to make the whole atmosphere of the place one of respect for all kinds of work, and a feeling of fellowship with farmers. To this end manual labor is insisted on from all, if we can speak of insisting on what students offer in excess of our requirements. To this end there is no furnishing of easier or more tasteful work to the seniors than is given to other students; the habit of work and taste for it is kept up to the end. To this same end the labor system and the instruction are planned to match each other, to illustrate each other, so that to the labor is given some of the dignity of scientific work, and to the scientific instruction labor serves as a kind of laboratory practice for instruction.

To the same end the labor, instead of being a few hours now and then like that furnished in the dissecting room, is made a daily and continuous thing, a real and productive work, for which in return it is but fair, at least in the present undeveloped state of the college, that moderate compensation should be allowed.

The result of these efforts to create a truly agricultural school appears in the fact that in place of 1¼ per cent. of graduates going to farming, as from other colleges, 38 per cent., or, not counting those not living and those who are still students, 42 per cent. have gone to farming, fruit-raising, and the nursery business as their chief or only business. In this respect the college is doing what has never been done before,—sending men with good education in fair proportion back to work farms. If this agency is dropped, what is to supply its place? Not newspapers and clubs, for they fail to supply the underlying scientific training that is needed here and there through communities; not departments of colleges, for they will have almost no agricultural students; not the colleges themselves, for they educate all but 1¼ per cent. of their graduates away from the farms.

What kind of farmers graduates will make remains in good part to be seen. No professional school educates a man to take at once a prominent place in the rank he enters.

The Maryland Agricultural College.

The regular quarterly meeting of the Board of Trustees was held on the 9th ultimo at the College. The attendance was good. Captain Hardcastle of Talbot was present, having reconsidered his resignation, and took part in the proceedings. A good deal of business was done, but not much of public interest, and after a general discussion of the affairs of the institution it was resolved not to elect the professors as was intended, but to adjourn to the 1st July, (to-day.)

The adjourned meeting was held in this city. There were present five trustees on the part of the stockholders and two representing the State. We have delayed for a day or two the publication of this No. of the *Farmer* in the hope that the action of the Board to day would be decisive, and that we should have the pleasure of laying before our readers not only the plan of reorganization adopted but the names of the faculty elected to carry out the views of the Trustees.

The friends of the College were anxious that it should be set in order at once, and that competent and energetic men, if suitable ones were to be had, should be selected to mature a course of study and begin preparations for the session which ought to open in September.

The Board, however, decided not to go into an election, and a committee of three members was appointed to take general charge of the financial and other affairs of the College, and to recommend suitable action and persons to the Board at an adjourned meeting, which will be held on the 15th instant. This, we suppose, vacates the course decided upon in May.

We regret very much this delay. If any good is to be accomplished during its next year by the institution, preparation cannot too soon be begun.

It seems that there are conflicting views still held in the Board, both as to the conduct of the College and the proper persons to carry on its operations.

We trust these views can be harmonized and the College relieved from its difficulties; that a satisfactory course of studies will be adopted, and an efficient corps of professors selected.

Another false step in its administration, we think, will prove fatal. It *ought* to prove fatal, if the accumulated experience of disasters in the past does not prevent the repetition of the identical blunders which have heretofore destroyed its usefulness to our State and its farmers.

☞Any of the Secretaries of the Maryland Granges in the list given in this No. will, we have no doubt, forward with pleasure any subscriptions to the *American Farmer* which may be handed them by patrons or others.

The Care of Farm Machinery.

We have heard competent machinists say that fully one-quarter of the value of machinery was lost by a failure to keep the bearing surfaces well oiled. Our observation is, that farmers, as a rule, use too much oil on the bearings of farm machinery, and to the detriment of the bearings.—They put on large quantities of oil, but not sufficiently often. The use and value of oil are to keep the surfaces apart, so they may not grind, and to furnish a medium upon which they may slide or roll upon each other with the least possible friction. To do this properly, judgment must be used. If too much oil be given, the surplus immediately runs away and is lost; if not enough be given, the bearings run and wear upon each other, and are soon destroyed, or rendered so loose as to become comparatively worthless. So, the first thing to be considered is the exact quantity of oil to properly lubricate the surfaces without waste, and the time in which the oil will be worn away, which will be in proportion to the swiftness of the motion. According to experiments in France, the friction of wooded surfaces rubbing on wood amounted to from one-quarter to one-half of the forces employed. The friction of metal on wood was something less; while the friction of metal on metal surfaces was from one-fifth to one-seventh. Lard, applied to wood on wood, reduced the friction from one-tenth to one-twenty-eighth of the power required to move the surfaces dry; and, on metal running upon metal, the friction was reduced to one-half of what it was before.

Feeding Carriage Horses.

Experience has shown that it is sufficient to feed the horse three times a day. Less frequent feeding is decidedly objectionable. The oats should be divided into three portions and the hay into two. It is best not to give any hay at the feed preceeding the time at which the animal is likely to be required for work. He will do his work easier if his stomach is somewhat empty than if it is distended with hay. Hence, if a horse is used in the morning, the portion of hay should be omitted at the early feed and reserved for midday and evening. If on the other hand, he is required for work in the afternoon, he should get his hay in the morning and evening. Horses should not be fed when heated, immediately after work. The stomach is not then in a good state for the proper digestion of the food. The best time for feeding, as a general rule, is at the close of each stable hour. The horse will then feed more quietly, comforiably, and more at his leisure than when servants are bustling about. Besides many horses if disturbed whilst feeding, are apt to knock about and spill their grain. Regularity in the hours of feeding is a matter of some importance. Overlengthened abstinence is injurious, and the mischief is often aggravated by the animal eating to excess when he gets his food. An overhearty meal is hurtful at any time, but it is especially so when the stomach is weakened by long fasting. It is absolutely necessary that the food supplied should be good and sound.—*Wilks' Spirit.*

Horse Management.

Horses should not be stinted in their feed. Work horses should be put out to pasture at night, but they should have their usual allowance of other feed. They have some lost flesh to make up. Scrape off the eggs of the botfly from their fore-legs and shoulders with a sharp knife, or wash them off with warm water every evening. Three hours rest at noon is not too much for the team while plowing. The lost time may be made up at morning and night. This arrangement is not a bad one for the driver as well. Give water often, and don't forget the handful of cornmeal stirred into it.

Colts may be taught to eat a little meal or bran, and to be handled freely. Careful attention and the gentlest possible treatment should be given to all young stock at this season.—*Iowa Fine-Stock Gazette.*

The Baltimore County Farmers' Union elected the following officers for the ensuing year:—President, S. M. Rankin; 1st Vice-President, J. D. Matthews; 2d do., N. H. Hutchins; Rec. Sec., Thomas Gorsuch; Cor. Sec., William Webster; Treas., Geo. H. Merryman.

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Baltimore Markets—June 30.

The quotations below are Wholesale Prices..

Breadstuffs.—*Flour.*—Market steady and demand fair. We quote Howard St. Super $4.25@4.75; do. Extra $5.00@5.37; do. Family $5.50@6.50; Ohio and Indiana Super $4.25@4.75; do. Extra $5.00@5.37; do. Family $5.50@6.25; City Mills Super $4.25@4.75; do. Extra $5.12@5.50; do. Rio brands do. $6.25@6.50; City fancy brands $8.25; Fine Flour $4.00@4.25; Rye Flour $5.25@5.75. Corn Meal—City $4.25; Western $4.00.

Wheat.—In fair demand and market firm. Penna red 125@127 cents; Maryland red 120@128 cts.; do. amber 130@132 cents; do. white 120@132 cts.

Corn.—Firm, with prices advancing: Southern white 87 cents; do. yellow 81 cts.; Western mixed 80 cts.

Oats.—Dull and prices falling. Southern light 69@70 cents; do. heavy 68 cents; Western bright 64 cents; do. mixed 62@63 cents.

Rye.—Dull and nominal at 95@100 cents for good to prime.

Broom Corn.—Choice Hurl 11@11¼ cts. ₮ lb.; medium green 10@10½; red-tipped 8½@9½; crooked 7½@8.

Cotton.—Dull. We quote middling 15½@15¾ cents; low middling 14¾@14¾ cts.; good ordinary 13¾ cts.

Hay and Straw.—Hay is firm and Straw steady at following quotations: Cecil County Timothy $24@26; Maryland and Penna. do. $19@21; Mixed $18@20; Clover $16@17; Rye Straw $13@15; Oat Straw $10@11; Wheat $9@10.

Mill Feed.—Western we quote at $17@18 for Bran, $20 for Shipstuff, and City at $20 for Brownestuff and $23 for Middlings ₮ ton, but the market is quiet.

Provisions.—Quiet with prices firm. We quote Bulk Shoulders 9¼@9½ cents; do. clear-rib Sides 12¼@12¾ cents; Bacon Shoulders 9¾@10 cents; do. clear-rib Sides 13@13¼ cents; Hams 14@14½ cts. Lard 14½ cts. *Butter.*—Supply and demand both light. Western tubs 15@20 cts.; Glades 24@25 cts. *Cheese.*—Western 10@11 cts.; Eastern 10@12½ cts.

Rice.—Carolina, 7¾@8¼ cents. Rangoon, 6¼@6¾ cents.

Salt.—Ground Alum, $1.20@1.25; Fine, $2.10@2.15 ₮ sack; Turks Island, 35@40 cents ₮ bushel.

Tobacco.—Market firm. Offerings of Maryland leaf taken promptly as opened. We quote: Maryland frosted, $6.50@7.00; common to good sound, $7.50@9.00; middling to fine red, $9.50@15.00; fancy, $16.00@20.00.

NEW ADVERTISEMENTS.

R. Sinclair & Co.—Agricultural Implements and Machinery.
Baugh & Sons—Fertilizers.
J. C. Hachtel & Co.—Super-Phosphates.
E. G. Edwards & Co.—Super-Phosphates.
Canfield, Bro. & Co.—Fine Watches, Jewelry, &c.
Dr. A. Drevar—Short-Horn Cattle for Sale.
Editors American Farmer—Jersey Cattle for Sale.
G. C. Gilmer.—Lands for Sale.

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1t EDITORS AMERICAN FARMER.

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One COW, 7 years old; one yearling HEIFFR; one yearling BULL; one BULL CALF. The above I brought with me last fall from Canada—they are all entered in the Canada Short-Horn Herd Book. My farm being hilly is not suited for such heavy Cattle.

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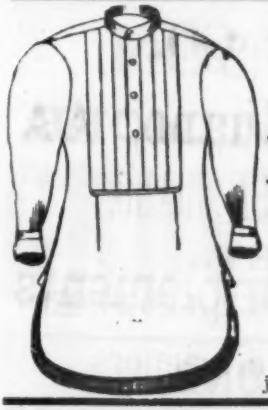

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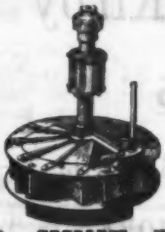

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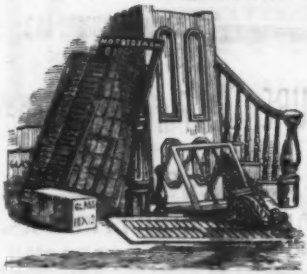

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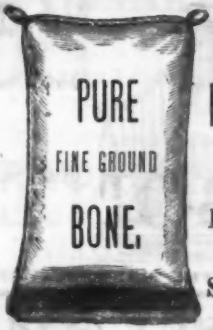

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To the Consumer as well as the Trade Generally.

We have now completed

Our New Factory,

and with the addition of the latest and most approved machinery are enabled at the shortest notice to furnish in large or small quantities

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An experience of more than thirty years in the manufacture of a

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And 1,500 Sweepstakes Threshers

Sold in the United States alone during the season of 1874.

Farmers, do you want any more emphatic endorsement than this of the superior merits of these machines? Do not allow yourselves to be humbugged by the extravagant representations of agents for other machines.

The BUCKEYE and the SWEEPSTAKES are the STANDARDS, and when you buy either or both of them you are sure to get your money's worth, and to have machines that will last you, with proper care, 15 years and probably longer

The BUCKEYE MILLER TABLE RAKE REAPER carried off the highest honors at almost every field-trial of 1874, and it has been plainly demonstrated that it is the simplest, best and easiest Reaper to bind after in the market.

Several valuable improvements have been added to the BUCKEYE and SWEEPSTAKES since last harvest, and manufacturers are determined to spare no pains or expense to keep them ahead of all competitors, which position they have occupied ever since their first introduction.

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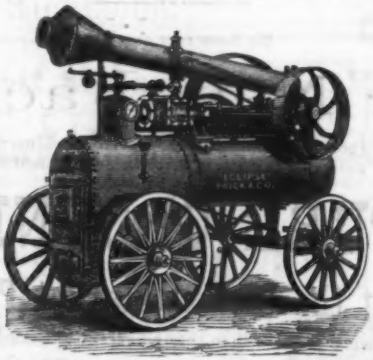

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Awarded first Premium at Cincinnati Exposition, 1874; Maryland State Agricultural Society, 1874, and Silver Medal at Virginia State Agricultural Society, 1874.

Thoroughly warranted in every respect, and especially adapted to wants of Threshermen, Sawing Lumber, Farm Work, &c.

Circular Saw Mills, Hagerstown Wheel Horse Rake,
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Those Who Use It Will Have no Other.

AWARDED FIRST PREMIUM AT EVERY FAIR ATTENDED IN 1874.

VIRGINIA STATE FAIR AT RICHMOND—First premium on three and four-horse sizes, right and left hand. At the plowing match, ALL PREMIUMS AWARDED white plowmen were taken with Watt Plows of one, two, three and four-horse sizes, and colored plowmen with one, two and three-horse sizes, BEING SEVEN OUT OF EIGHT PREMIUMS.

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This, with its great reputation before it, has won new laurels this year which must convince every farmer of its superiority. No choking where bright and smooth. No labor to plowmen. One-third less DRAUGHT to the team. Thorough burial of the weeds, grass, &c. Great STRENGTH, durability and economy, and complete pulverization of the soil. Warranted as represented, or to be returned. Send for Catalogue and Price-List.

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GUANO, BONE, PLASTER AND FERTILIZERS. CLOVER, TIMOTHY, ORCHARD, HERDS, KENTUCKY BLUE, AND OTHER FIELD-GRASS SEEDS. LAWN AND ORNAMENTAL GRASS SEEDS.

THE PREMIUM

BUCKEYE Self-Discharging HORSE RAKE.

Manufacturers of and dealers in

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We invite the attention of Farmers, Gardners and others to our complete stock of Implements, Seeds, &c., in which will be found all articles pertaining to our business. Our GARDEN SEEDS are of the latest and best varieties, all of which are fresh and true to name.

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Ammonia..... 5 Bone Phosphate of Lime..... 54

$45 Per Ton, in Bags.

MARYLAND SUPER - PHOSPHATE

And Tobacco Sustain.

750 lbs. Peruvian Guano. 1,100 lbs. Bone D. st. 150 lbs. Potash.

$50 Per Ton, in Bags.

DISSOLVED OR VITRIOLIZED BONE,

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No. 1 PERUVIAN GUANO, OIL VITRIOL (warranted full strength), MURIATE POTASH, SULPHATE OF SODA, NITRATE OF SODA, SULPHATE OF AMMONIA,

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Portable and Stationary Steam Engines and Boilers, Patent Portable CIRCULAR SAW MILLS, Portable Grist Mills, Horse Powers, Leffel's Turbine Water Wheel, &c.

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Lime, Cement and Plaster Depot.

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Building Lime in Barrels, or Packed in Hogheads for Shipment, or Delivered in Bulk to Buildings, Wholesale and Retail.

☞Rosendale Cement, Calcined and Land Plasters at Lowest Prices.☜

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Bricks at Brick-Yard Prices. oct-1y **Baltimore, Md.**

Ryder's American Fruit-Drier.

This Machine combines cheapne s in first cost, dura ility, simplicity, and practical utility in the most perfect manner. It is ma.le in sizes especially adapted for

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It has been greatly improved since last season, and, it is claimed, will in a single year

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And that fruits prepared in it are superior in **Flavor, Color and General Appearance.** It will dry and preserve equally well all kinds of Fruit, Vegetables, and animal substances. By its use, also, inferior fruits can be partially saved and turned to account.

The DRIER is now made in different sizes, with heater and all complete, varying in price from $50 to $200, and having a drying capacity of from 5 to 50 bushels per day.

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☞ RICH IN PHOSPHATES, AMMONIA AND OTHER ALKALINE SALTS, as per analysis, containing in one ton of 2,000 pounds, say

34 pounds Ammonia,
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Also, LIME, MAGNESIA, and other valuable constituents in smaller quantities. For sale, packed in barrels or bags, $15 per ton, 2,000 pounds, by

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It is the only Hotel in Baltimore of the new style, embracing

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And all conveniences; perfect ventilation and light throughout, and was planned and built as a Hotel, new from its foundation.

Its elegant and convenient Office and Exchange Room, with Telegraph, &c., will at all times be at the disposal of the merchants and citizens of the city.

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SUPER PHOSPHATE OF LIME,

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The Horse-Power is one of the most important implements, and probably the most difficult to keep in order; too much care, therefore, cannot be used in selecting the very best.

I have long made the manufacture of Horse-Powers a specialty, and can safely recommend my improved Iron-Geared Powers to be all that I claim for them.

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For Threshing, Ginning and General Farm Use,

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It is remarkable for its light draft, simplicity, great strength and durability. It is fitted up with as much care as a piece of cotton machinery or steam engine, and will last as long. The rule, the "best is the cheapest," applies with special force to Horse Powers.

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Having improved Blanchard machinery for the manufacture of Plow Handles upon an extensive scale, I can supply first quality Handles, side bent to order for any pattern of plow.

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SOLUBLE SEA ISLAND GUANO,

Of Undoubted Excellence for Cotton and Tobacco.

Ammoniated Alkaline Phosphate.

The Patron's Manure—to Whom we Refer.

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